



LG

Service Manual



LG

Service Manual

S5000

Model : S5000



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1. INTRODUCTION

1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common-carrier telecommunication service of facilities accessed through or connected to it.

The manufacturer will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the this phone or compatibility with the network, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on this model must be performed only by the manufacturer or its authorized agent.

The user may not make any changes and/or repairs expect as specifically noted in this manual. Therefore, note that unauthorized alterations or repair may affect the regulatory status of the system and may void any remaining warranty.

1. INTRODUCTION

E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures

The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

G. Interference and Attenuation

Phone may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from un suppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated  by the sign.
Following information is ESD handling:

- Service personnel should ground themselves by using a wrist strap when exchange system boards.
- When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron.
- Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.

1.3 Abbreviations

For the purposes of this manual, following abbreviations apply:

APC	Automatic Power Control
BB	Baseband
BER	Bit Error Ratio
CC-CV	Constant Current - Constant Voltage
DAC	Digital to Analog Converter
DCS	Digital Communication System
dBm	dB relative to 1 milli watt
DSP	Digital Signal Processing
EEPROM	Electrical Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FPCB	Flexible Printed Circuit Board
GMSK	Gaussian Minimum Shift Keying
GPIB	General Purpose Interface Bus
GSM	Global System for Mobile Communications
IPUI	International Portable User Identity
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LDO	Low Drop Output
LED	Light Emitting Diode
OPLL	Offset Phase Locked Loop

1. INTRODUCTION

PAM	Power Amplifier Module
PCB	Printed Circuit Board
PGA	Programmable Gain Amplifier
PLL	Phase Locked Loop
PSTN	Public Switched Telephone Network
RF	Radio Frequency
RLR	Receiving Loudness Rating
RMS	Root Mean Square
RTC	Real Time Clock
SAW	Surface Acoustic Wave
SIM	Subscriber Identity Module
SLR	Sending Loudness Rating
SRAM	Static Random Access Memory
PSRAM	Pseudo SRAM
STMR	Side Tone Masking Rating
TA	Travel Adapter
TDD	Time Division Duplex
TDMA	Time Division Multiple Access
UART	Universal Asynchronous Receiver/Transmitter
VCO	Voltage Controlled Oscillator
VCTCXO	Voltage Control Temperature Compensated Crystal Oscillator
WAP	Wireless Application Protocol

2. PERFORMANCE

2. PERFORMANCE

2.1 H/W Features

Item	Feature	Comment
Standard Battery	Classification : Li-on Capacity min 1000mAh Voltage :3.7V Cell Weight : 22g	
Stand by Current	Under the minimum current consumption environment (such as paging period 9), the level of standby current is below 4mA.	
Talk time	Up to 2.5 hours (GSM TX Level 5)	
Stand by time	Up to 200 hours (Paging Period: 9, RSSI: -85 dBm)	
Charging time	Approx. Under 3 hours	
RX Sensitivity	GSM, EGSM: -107dBm, DCS: -107dBm	
TX output power	GSM, EGSM: 33dBm(Level 5), DCS, PCS: 30dBm(Level 0)	
GPRS compatibility	Class 10	
SIM card type	3V Small	
Display	Main LCD : 128 x 160 260K OLED, 1.77" Sub LCD : 96 x 64 65K OLED, 1.04"	
Status Indicator	Hard icons. Key Pad 0 ~ 9, #, *, Up/Down Navigation Key Menu Key, Clear Key Send Key, END/PWR Key Soft Key(Left/Right)	
ANT	Internal	
EAR Phone Jack	Yes (mono)	
PC Synchronization	Yes	
Speech coding	EFR/FR/HR	
Data and Fax	Yes	
Vibrator	Yes	
Loud Speaker	Yes	
Voice Recoding	Yes	
Microphone	Yes	
Speaker/Receiver	One way dual speaker	
Travel Adapter	Yes	
Bluetooth / USB	Yes	
MIDI	40 Poly (Mono SPK)	
Options	Data Kit , CD	
Camera Module	Yes(1.3 Mega CMOS)	

2. PERFORMANCE

2.2 Technical Specification

Item	Description	Specification																																																																																																																		
1	Frequency Band	EGSM <ul style="list-style-type: none"> TX: $890 + (n-1024) \times 0.2$ MHz RX: $935 + (n-1024) \times 0.2$ MHz (n=975~1024) DCS <ul style="list-style-type: none"> TX: $1710 + (n-512) \times 0.2$ MHz RX: $1805 + (n-512) \times 0.2$ MHz (n=512~885) PCS <ul style="list-style-type: none"> TX: $1810 + (n-512) \times 0.2$ MHz RX: $1905 + (n-512) \times 0.2$ MHz (n=512~885) 																																																																																																																		
2	Phase Error	RMS < 5 degrees Peak < 20 degrees																																																																																																																		
3	Frequency Error	< 0.1 ppm																																																																																																																		
4	Power Level	GSM, EGSM <table border="1"> <thead> <tr> <th>Level</th> <th>Power</th> <th>Toler.</th> <th>Level</th> <th>Power</th> <th>Toler.</th> </tr> </thead> <tbody> <tr><td>5</td><td>33 dBm</td><td>± 2dB</td><td>13</td><td>17 dBm</td><td>± 3dB</td></tr> <tr><td>6</td><td>31 dBm</td><td>± 3dB</td><td>14</td><td>15 dBm</td><td>± 3dB</td></tr> <tr><td>7</td><td>29 dBm</td><td>± 3dB</td><td>15</td><td>13 dBm</td><td>± 3dB</td></tr> <tr><td>8</td><td>27 dBm</td><td>± 3dB</td><td>16</td><td>11 dBm</td><td>± 5dB</td></tr> <tr><td>9</td><td>25 dBm</td><td>± 3dB</td><td>17</td><td>9 dBm</td><td>± 5dB</td></tr> <tr><td>10</td><td>23 dBm</td><td>± 3dB</td><td>18</td><td>7 dBm</td><td>± 5dB</td></tr> <tr><td>11</td><td>21 dBm</td><td>± 3dB</td><td>19</td><td>5 dBm</td><td>± 5dB</td></tr> <tr><td>12</td><td>19 dBm</td><td>± 3dB</td><td></td><td></td><td></td></tr> </tbody> </table> DCS, PCS <table border="1"> <thead> <tr> <th>Level</th> <th>Power</th> <th>Toler.</th> <th>Level</th> <th>Power</th> <th>Toler.</th> </tr> </thead> <tbody> <tr><td>0</td><td>30 dBm</td><td>± 2dB</td><td>8</td><td>14 dBm</td><td>± 3dB</td></tr> <tr><td>1</td><td>28 dBm</td><td>± 3dB</td><td>9</td><td>12 dBm</td><td>± 4dB</td></tr> <tr><td>2</td><td>26 dBm</td><td>± 3dB</td><td>10</td><td>10 dBm</td><td>± 4dB</td></tr> <tr><td>3</td><td>24 dBm</td><td>± 3dB</td><td>11</td><td>8 dBm</td><td>± 4dB</td></tr> <tr><td>4</td><td>22 dBm</td><td>± 3dB</td><td>12</td><td>6 dBm</td><td>± 4dB</td></tr> <tr><td>5</td><td>20 dBm</td><td>± 3dB</td><td>13</td><td>4 dBm</td><td>± 4dB</td></tr> <tr><td>6</td><td>18 dBm</td><td>± 3dB</td><td>14</td><td>2 dBm</td><td>± 5dB</td></tr> <tr><td>7</td><td>16 dBm</td><td>± 3dB</td><td>15</td><td>0 dBm</td><td>± 5dB</td></tr> </tbody> </table>							Level	Power	Toler.	Level	Power	Toler.	5	33 dBm	± 2 dB	13	17 dBm	± 3 dB	6	31 dBm	± 3 dB	14	15 dBm	± 3 dB	7	29 dBm	± 3 dB	15	13 dBm	± 3 dB	8	27 dBm	± 3 dB	16	11 dBm	± 5 dB	9	25 dBm	± 3 dB	17	9 dBm	± 5 dB	10	23 dBm	± 3 dB	18	7 dBm	± 5 dB	11	21 dBm	± 3 dB	19	5 dBm	± 5 dB	12	19 dBm	± 3 dB				Level	Power	Toler.	Level	Power	Toler.	0	30 dBm	± 2 dB	8	14 dBm	± 3 dB	1	28 dBm	± 3 dB	9	12 dBm	± 4 dB	2	26 dBm	± 3 dB	10	10 dBm	± 4 dB	3	24 dBm	± 3 dB	11	8 dBm	± 4 dB	4	22 dBm	± 3 dB	12	6 dBm	± 4 dB	5	20 dBm	± 3 dB	13	4 dBm	± 4 dB	6	18 dBm	± 3 dB	14	2 dBm	± 5 dB	7	16 dBm	± 3 dB	15	0 dBm	± 5 dB
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2. PERFORMANCE

Item	Description	Specification	
5	Output RF Spectrum (due to modulation)	GSM, EGSM	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600 ~ 1,200	-60
		1,200 ~ 1,800	-60
		1,800 ~ 3,000	-63
		3,000 ~ 6,000	-65
		6,000	-71
		DCS, PCS	
		Offset from Carrier (kHz).	Max. dBc
		100	+0.5
		200	-30
		250	-33
		400	-60
		600 ~ 1,200	-60
		1,200 ~ 1,800	-60
		1,800 ~ 3,000	-65
		3,000 ~ 6,000	-65
		6,000	-73
6	Output RF Spectrum (due to switching transient)	GSM, EGSM	
		Offset from Carrier (kHz)	Max. (dBm)
		400	-19
		600	-21
		1,200	-21
		1,800	-24

2. PERFORMANCE

Item	Description	Specification		
6	Output RF Spectrum (due to switching transient)	DCS, PCS		
		Offset from Carrier (kHz)		
		400		
		600		
		1,200		
		1,800		
7	Spurious Emissions	Conduction, Emission Status		
8	Bit Error Ratio	GSM, EGSM BER (Class II) < 2.439% @ -102 dBm		
		DCS, PCS BER (Class II) < 2.439% @ -100 dBm		
9	Rx Level Report Accuracy	±3 dB		
10	SLR	8 ±3 dB		
11	Sending Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	/
		200	0	/
		300	0	-12
		1,000	0	-6
		2,000	4	-6
		3,000	4	-6
		3,400	4	-9
		4,000	0	/
12	RLR	2 ±3 dB		
13	Receiving Response	Frequency (Hz)	Max.(dB)	Min.(dB)
		100	-12	/
		200	0	/
		300	2	-7
		500	*	-5
		1,000	0	-5
		3,000	2	-5
		3,400	2	-10
		4,000	2	
		* Mean that Adopt a straight line in between 300 Hz and 1,000 Hz to be Max. level in the range.		

2. PERFORMANCE

Item	Description	Specification	
14	STMR	13 ± 5 dB	
15	Stability Margin	> 6 dB	
16	Distortion	dB to ARL (dB)	Level Ratio (dB)
		-35	17.5
		-30	22.5
		-20	30.7
		-10	33.3
		0	33.7
		7	31.7
		10	25.5
17	Side Tone Distortion	Three stage distortion $< 10\%$	
18	System frequency (13 MHz) tolerance	≤ 2.5 ppm	
19	32.768KHz tolerance	≤ 30 ppm	
20	Ringer Volume	At least 65 dBspl under below conditions: 1. Ringer set as ringer. 2. Test distance set as 50 cm	
21	Charge Current	Fast Charge : < 430 mA Slow Charge : < 160 mA	
22	Antenna Display	Antenna Bar Number	Power
		5	-85 dBm ~
		4	-90 dBm ~ -86 dBm
		3	-95 dBm ~ -91 dBm
		2	-100 dBm ~ -96 dBm
		1	-105 dBm ~ -101 dBm
		0	~-105 dBm
23	Battery Indicator	Battery Bar Number	Voltage
		0	3.51V~3.61V
		1	3.62V~3.69V
		2	3.70V~3.77V
		3	3.78V~3.91V
		4	3.92V~
24	Low Voltage Warning	3.62 ± 0.03 V (Call)	
		3.50 ± 0.03 V (Standby)	

2. PERFORMANCE

Item	Description	Specification
25	Forced shut down Voltage	3.35 ± 0.03 V
26	Battery Type	1 Li-ion Battery Standard Voltage = 3.7 V Battery full charge voltage = 4.2 V Capacity: 1000mAh
27	Travel Charger	Switching-mode charger Input: 100 ~ 240 V, 50/60 Hz Output: 5.2 V, 800 mA

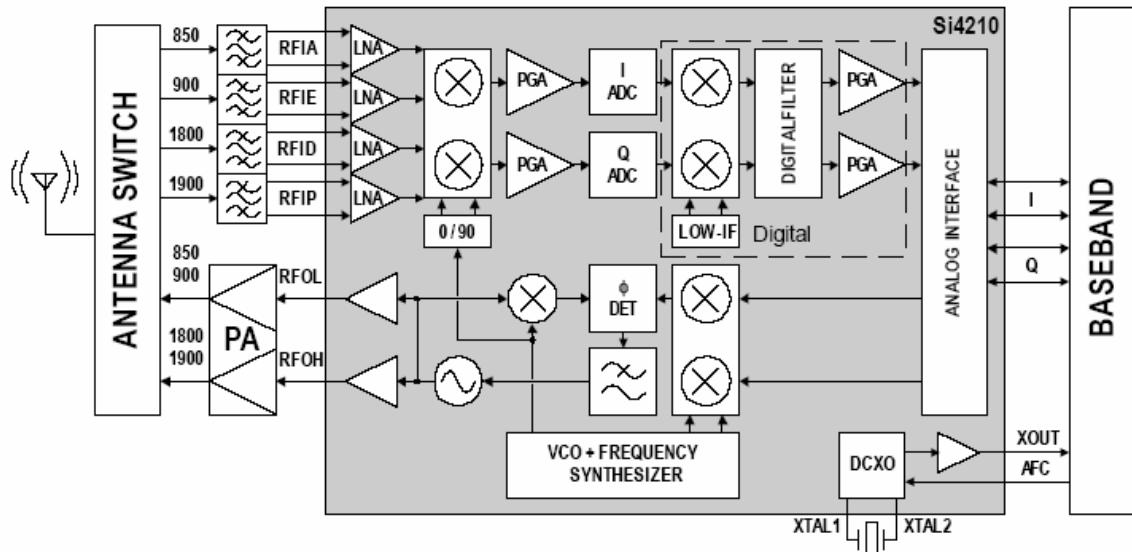
3. TECHNICAL BRIEF

3.1 Transceiver (Si4210, U501)

The RF parts consist of a transmitter part, a receiver part, a frequency synthesizer part, a voltage supply part, and a VCTCXO part.

The Aero I transceiver is the integrated RF front end for multi-band GSM/GPRS digital cellular handsets and wireless data modems. The integrated solution eliminates the IF SAW filter, external low noise amplifier (LNAs) for three bands, transmit and RF voltage controlled oscillator (VCO modules, and other discrete components found in conventional designs.

Figure. 3-1 RECEIVER FUNCTIONAL BLOCK DIAGRAM



3. TECHNICAL BRIEF

(1) Receiver Part

The Aero I transceiver uses a low-IF receiver architecture which allows for the on chip integration of the channel selection filters, eliminating the external RF image reject filters and the IF SAW filter required in conventional super-heterodyne architectures.

A. RF front end

RF front end consists of Front End Module(FL500) and dual band LNAs integrated in transceiver (U501).

The Received RF signals(GSM 925MHz ~ 960MHz, DCS 1805MHz ~ 1880MHz PCS 1905MHz ~ 1980MHz) are fed into the antenna or Mobile switch.

The Front End Module(FL500) is used to control the Rx and Tx paths. And, the input signals VC1, VC2, VC3 of a FL500 are directly connected to baseband controller to switch either Tx or Rx path on.

The logic and current is given below Table 3-1

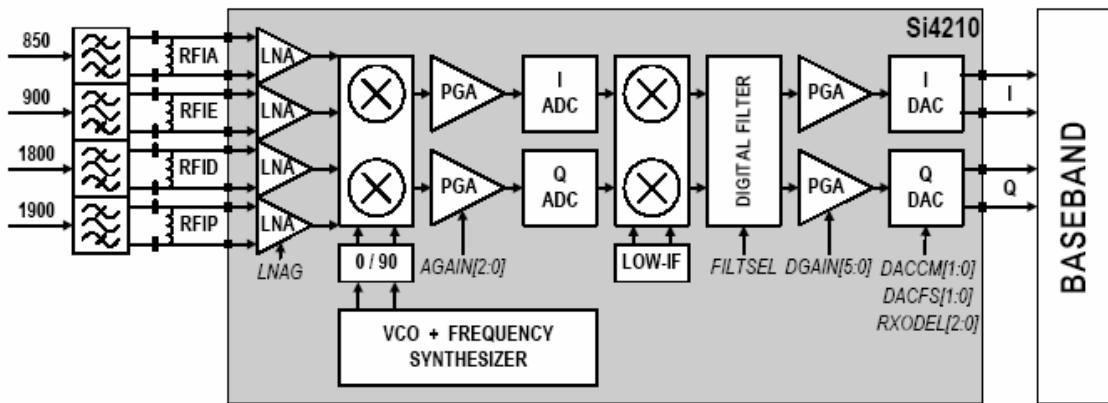
Table 3-1 THE LOGIC AND CURRENT

	VC1	VC2	VC3
GSM Tx	0 V	0 V	2.5 ~ 3.0 V
DCS, PCS Tx	0 V	2.5 ~ 3.0 V	0 V
GSM / DCS Rx	0 V	0 V	0 V
GSM / DCS Rx	2.5 ~ 3.0 V	0 V	0V

Three differential-input LNAs are integrated in SI4205. The GSM input supports the GSM 850 (864-894MHz) or E-GSM 900 (925-960MHz) bands. The DCS input supports the DCS 1800 (1805-1880 MHz) band. The PCS input supports the PCS 1900 (1930-1990 MHz) band.

The LNA inputs are matched to the 150 balanced output SAW filters through external LC matching networks. The LNA gain is controlled with the LNAG[1:0] and LNAC[1:0] bits in register 05h (Figure 3-2).

Figure. 3-2 SI4205 RECEIVER PART



B. Intermediate frequency (IF) and Demodulation

A quadrature image-reject mixer downconverts the RF signal to a 100KHz intermediate frequency (IF) with the RFLO from the frequency synthesizer. The RFLO frequency is between 1737.8 to 1989.9 MHz, and is internally divided by 2 for GSM 850 and E-GSM 900 modes. The mixer output is amplified with an analog programmable gain amplifier (PGA), which is controlled with the AGAIN[2:0] bits in register 05h (Figure3-2). The quadrature IF signal is digitized with high resolution A/D converters (ADCs).

The ADC output is downconverted to baseband with a digital 100KHz quadrature LO signal. Digital decimation and IIR filters perform channel selection to remove blocking and reference interference signals. The selectivity setting (CSEL=0) or a low selectivity setting (CSEL=1). The low selectivity filter has a flatter group channelization filter is in the baseband chip. After channel selection, the digital output is scaled with a digital PGA, which is controlled with the DGAIN [5:0] bits in register 05h.

The amplified digital output signal go through with DACs that drive a differential analog signal onto the RXIP,RXIN,RXQP and RXQN pins to interface to standard analog ADC input baseband ICs. No special processing is required in the baseband for offset compensation or extended dynamic range.

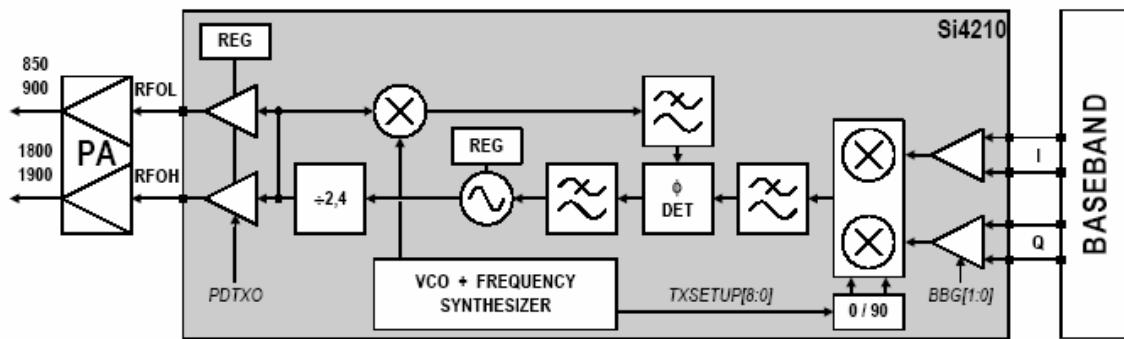
Compared to a direct-conversion architecture, the low-IF architecture has a much greater degree of immunity to dc offsets that can arise from RF local oscillator(RFLO) self-mixing, 2nd order distortion of blockers, and device 1/f noise.

3. TECHNICAL BRIEF

(2) Transmitter Part

The transmit (Tx) section consists of an I/Q baseband upconverter, and offset phase-locked loop (OPLL) and two output buffers that can drive external power amplifiers (PA), one for the GSM 850 (824-849 MHz) and E-GSM 900 (880-915 MHz) bands and one for the DCS 1800 (1710-1785 MHz) and PCS 1900 (1850-1910MHz) bands.

Figure. 3-3 SI4205 TRANSMITTER PART

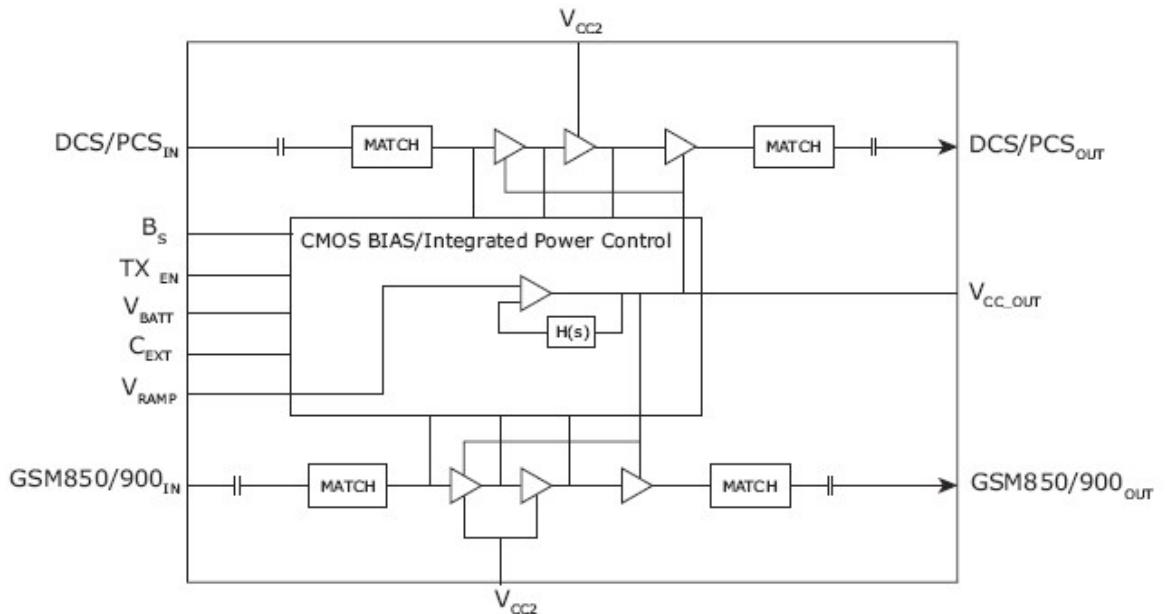


A. IF Modulator

The baseband converter(BBC) within the GSM chipset generates I and Q baseband signals for the Transmit vector modulator. The modulator provides more than 40dBc of carrier and unwanted sideband rejection and produces a GMSK modulated signal. The baseband software is able to cancel out differential DC offsets in the I/Q baseband signals caused by imperfections in the D/A converters. The Tx-Modulator implements a quadrature modulator. A quadrature mixer upconverts the differential in-phase (TXIP, TXIN) and quadrature (TXQP, TXQN) signals with the IFLO to generate a SSB IF signal that is filtered and used as the reference input to the OPLL.

The IFLO frequency is generated between 766 and 896 MHz and internally divided by 2 to generate the quadrature LO signals for the quadrature modulator, resulting in an IF between 383 and 448 MHz. For the E-GSM 900 band, two different IFLO frequencies are required for spur management. Therefore, the IF PLL must be programmed per channel in the E-GSM 900 band.

3.2 PAM (AWT6171, U500)



The AWT6171 input and output terminals are internal matched to 50 ohms and DC blocked, reducing the number of external components required in the final application. Both PA die, GSM850/900 and DCS/PCS are fabricated using state of the art InGaPHBT technology, known for its proven reliability and temperature stability.

3. TECHNICAL BRIEF

B. OPLL

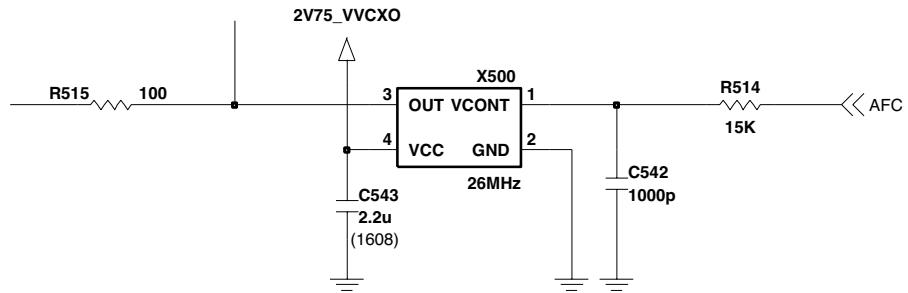
The OPLL consists of a feedback mixer, a phase detector, a loop filter, and a fully integrated TXVCO. The TXVCO is centered between the DCS 1800 and PCS 1900 bands, and its output is divided by 2 for the GSM 850 and E-GSM 900 bands. The RFLO frequency is generated between 1272 and 1483 MHz. To allow a single VCO to be used for the RFLO, high-side injection is used for the GSM 850 and E-GSM 900 bands, and low-side injection is used for the DCS 1800 and PCS 1900 bands. The I and Q signals are automatically swapped when switching bands. Additionally, the SWAP bit in register 03h can be used to manually exchange the I and Q signals.

Low-pass filters before the OPLL phase detector reduce the harmonic content of the quadrature modulator and feedback mixer outputs. The cutoff frequency of the filters is programmable with the FIF[3:0] bits in register 04h (Figure 3-3), and should be set to the recommended settings detailed in the register description.

3.3 26 MHz Clock (VCTCXO, X500)

The 26 MHz clock(X500) consists of a TCXO(Temperature Compensated Crystal Oscillator) which oscillates at a frequency of 26 MHz. It is used within the Si4205, analog base band chipset (U101, AD6537B), digital base band chipset (U103, AD6527)

Figure 3-6 VCTCXO CIRCUIT DIAGRAM



3.4 Power Supplies for RF Circuits (RF LDO, U503)

Two regulators are used for RF circuits. One is MIC5255 (U503), and the other is one port of AD6537B (U101).

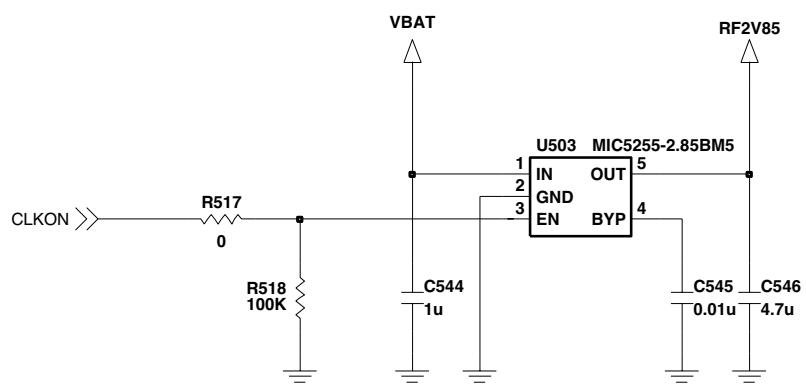
MIC5255 (U503) supplies power to transceiver (SI4210, U501). One port of AD6537B supplies power to VCTCXO (X500). Main power (VBAT) from battery is used for PAM (AWT6171, U500) because PAM requires high power.

Table 3-2 RF POWER SUPPLIERS

Supplier	Voltage	Powers	enabled signal
U503(VRF)	2.85 V	U501	CLKON
U102(VVCXO)	2.75 V	X500	
Battery(VBAT)	3.4 ~ 4.2 V	U500, U503	

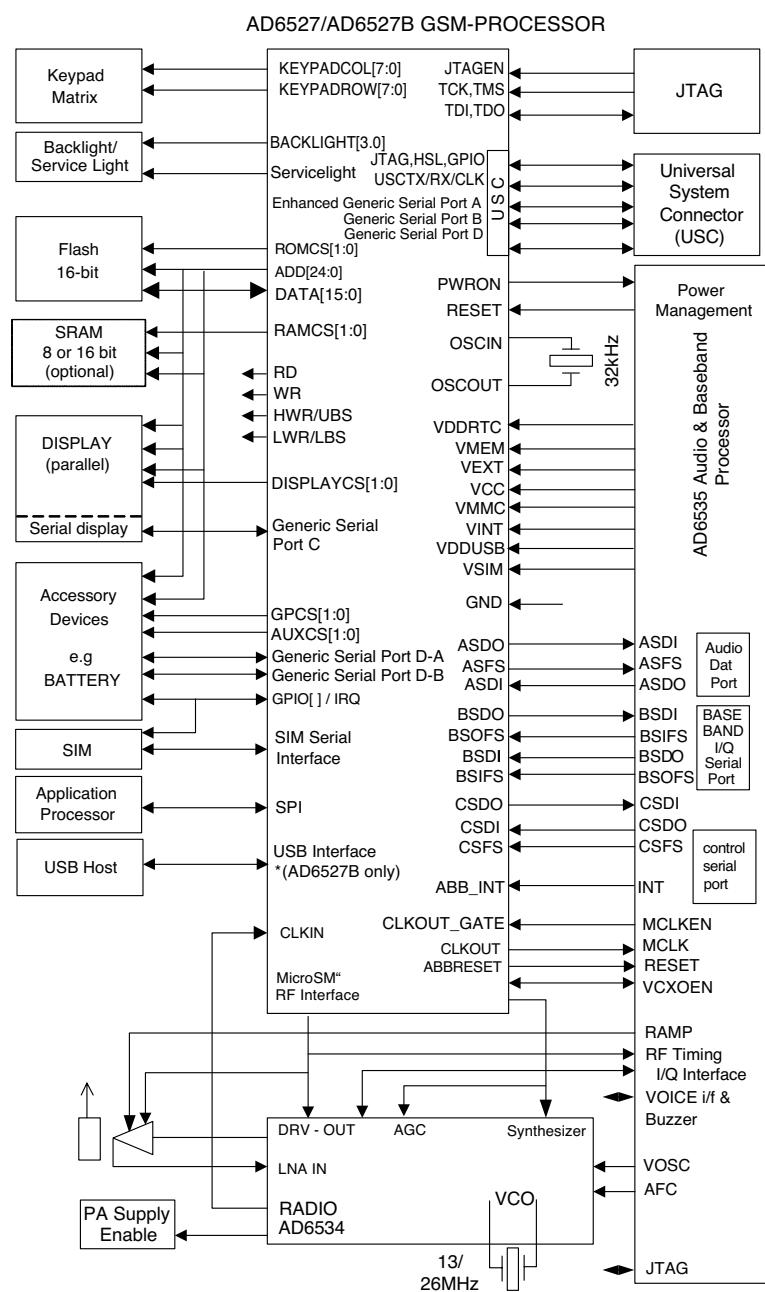
3. TECHNICAL BRIEF

Figure 3-7 RF LDO CIRCUIT DIAGRAM



3.5 Digital Main Processor (AD6527, U103)

Figure 3-8. SYSTEM INTERCONNECTION OF AD6527 EXTERNAL INTERFACE



3. TECHNICAL BRIEF

- AD6527 is an ADI designed processor.
- AD6527 consists of
 - 1. Control Processor Subsystem
 - 32-bit ARM7TDMI Control Processor
 - 58.5 MHz operation at 1.7V
 - On-board 16KB instruction/Data Cache
 - 1 Mbits of on-chip System SRAM
 - 2. DSP Subsystem
 - 16-bit Fixed Point DSP Processor
 - 91 MIPS at 1.7V
 - 16K word Data and 16K word Program SRAM
 - 4K word Program Instruction Cache
 - Architecture supports Full Rate, Enhanced Full Rate, Half Rate, and AMR Speech Encoding/Decoding Algorithms
 - 3. Peripheral Subsystem
 - Shared on-chip peripheral and off-chip interface:
 - Support for Burst and Page Mode Flash
 - Support for Pseudo SRAM
 - Ciphering module for GPRS supporting GAE1 and GAE2 encryption algorithms
 - Parallel and Serial Display Interface
 - 8 x 8 Keypad Interface
 - Four independent programmable backlight plus One Service Light
 - 1.8V and 3.0V, 64 kbps SIM interface
 - Universal System Connector Interface
 - Slow, Medium and Fast IrDA transceiver interface
 - Enhanced Generic Serial Port
 - Dedicated SPI interface
 - Thumbwheel Interface
 - JTAG Interface for Test and In-Circuit Emulation
 - 4. Other
 - Supports 13 MHz and 26 MHz Input Clocks
 - 1.8V Typical Core Operating Voltages
 - 204-Ball LFBGA(mini-BGA) Package
 - 5. Applications
 - GSM900/DCS1800/PCS1900/PCS850 Wireless Terminals
 - GSM Phase 2+ Compliant
 - GPRS Class 12 Compliant
 - Multimedia Services(MMS)
 - Extended Messaging System(EMS)

3. TECHNICAL BRIEF

3.5.1 Interconnection with external devices

A. RTC block interface

Countered by external X-TAL

The X-TAL oscillates 32.768KHz

B. LCD module interface

The LCD module is controlled by CAMERA IC, CL765A

If CL765A is in the state of by-pass mode, the LCD control signals from AD6527 are by-passed through CL765A.

In operating mode, the CL765A controls the LCD module through L_MAIN_LCD_CS, L_SUB_LCD_CS, LCD_RESET, LCD_RS, LCD_WR, LCD_RD, L_DATA[15-00], 2V8_MV,1.8_MV.

Table 3-3. LCD CONTRON SIGNALS DISSCRIPTION

Signals	Description
L_MAIN_LCD_CS	MAIN LCD driver chip enable. MAIN LCD driver IC has own CS pin
L_SUB_LCD_CS	SUB LCD driver chip enable. SUB LCD driver IC has own CS pin
LCD_RESET (GPIO 15)	This pin resets LCD module. This signal comes from DBB directly.
LCD_WR	Enable writing to LCD Driver.
LCD_RD	Enable reading to LCD Driver.
LCD_RS	This pin determines whether the data to LCD module are display data or control data. LCD_RS can select 16 bit parallel bus.
2V8_MV,1V8_MV	2.85V voltage is supplied to LCD driver IC.
LCD_SIGNAL1 (GPIO_16)	
LCD_SIGNAL2 (GPIO_17)	For the future.

3. TECHNICAL BRIEF

C. RF interface

The AD6527 control RF parts through PA_BAND, ANT_SW1, ANT_SW2, CLKON , PA_EN, SEN, SDATA, SCLK, RF_PWR_DWN.

Table 3-5. RF CONTRON SIGNALS DISCRIPTION

Signals	Description
PA_BAND (GPO 17)	PAM Band Select
ANT_SW1 (GPO 9)	Antenna switch Band Select
ANT_SW2 (GPO 11)	Antenna switch Band Select
CLKON	RF LDO Enable/Disable
PA_EN (GPO 16)	PAM Enable/Disable
S_EN (GPO 19)	PLL Enable/Disable
S_DATA (GPO 20)	Serial Data to PLL
S_CLK (GPO 21)	Clock to PLL
RF_EN (GPO 4)	Power down Input

D. Key interface

Include 5 column , 5 row and additional GPIO 35 for KEY_ROW5. The AD6527 detects whether key is pressed or not by using interrupt method.

E. AD6537B Interrupt

AD6537B provides an active-high interrupt output signal. Interrupt signals are generated by the Auxiliary ADC, audio, and charger modules.

F. SIM interface

The AD6527 provides SIM Interface Module. The AD6527 checks status periodically during established call mode whether SIM card is inserted or not, but it doesn't check during deep Sleep mode. In order to communicate with SIM card, 3 signals SIM_DATA, SIM_CLK, SIM_RST(GPIO_23)

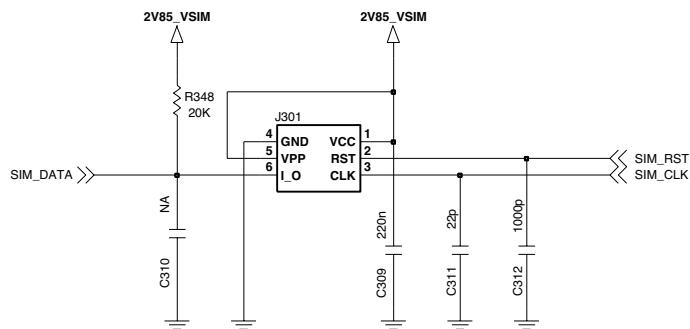
are required. The descriptions about the signals are given by bellow Table 3-6 in detail.

Table 3-6. SIM CONTRON SIGNALS DISCRIPTION

Signals	Description
SIM_DATA	This pin receives and sends data to SIM card. This model can support 1.8volt and 3.0 volt interface SIM card.
SIM_CLK	Clock 3.25MHz frequency.
SIM_RST (GPIO_23)	Reset SIM block

Figure 3-9. SIM Interface of AD6527

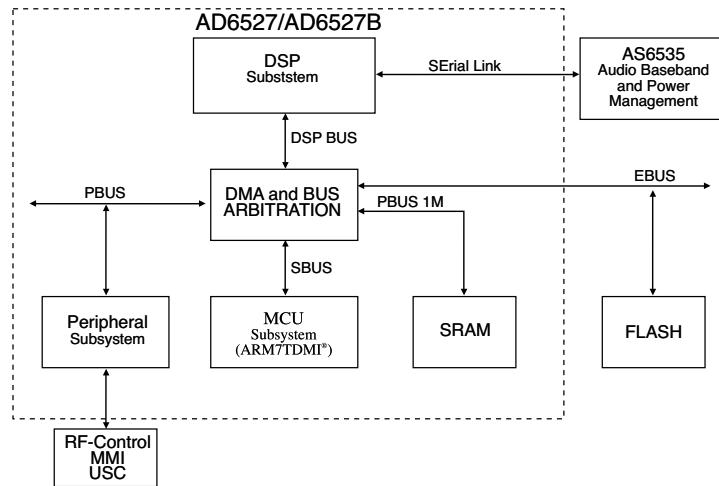
SIM CONNECTOR



3. TECHNICAL BRIEF

3.5.2 AD6527 Architecture

Figure 3-10. AD6527 Architecture



The internal architecture of AD6527 is shown above Figure 3-10. AD6527 regroups three main subsystems connected together through a dynamic and flexible communication bus network. It also includes onboard system RAM (SRAM) and interfaces with external Flash Memory, Baseband converter functions, and terminal functions like MMI, SIM and Universal System Connector (USC).

The Digital Signal Processing (DSP) subsystem primarily hosts all the speech processing, channel equalization and channel codec functions. The code used to implement such functions can be stored in external Flash Memory and dynamically downloaded on demand into the DSP's program RAM and Instruction Cache.

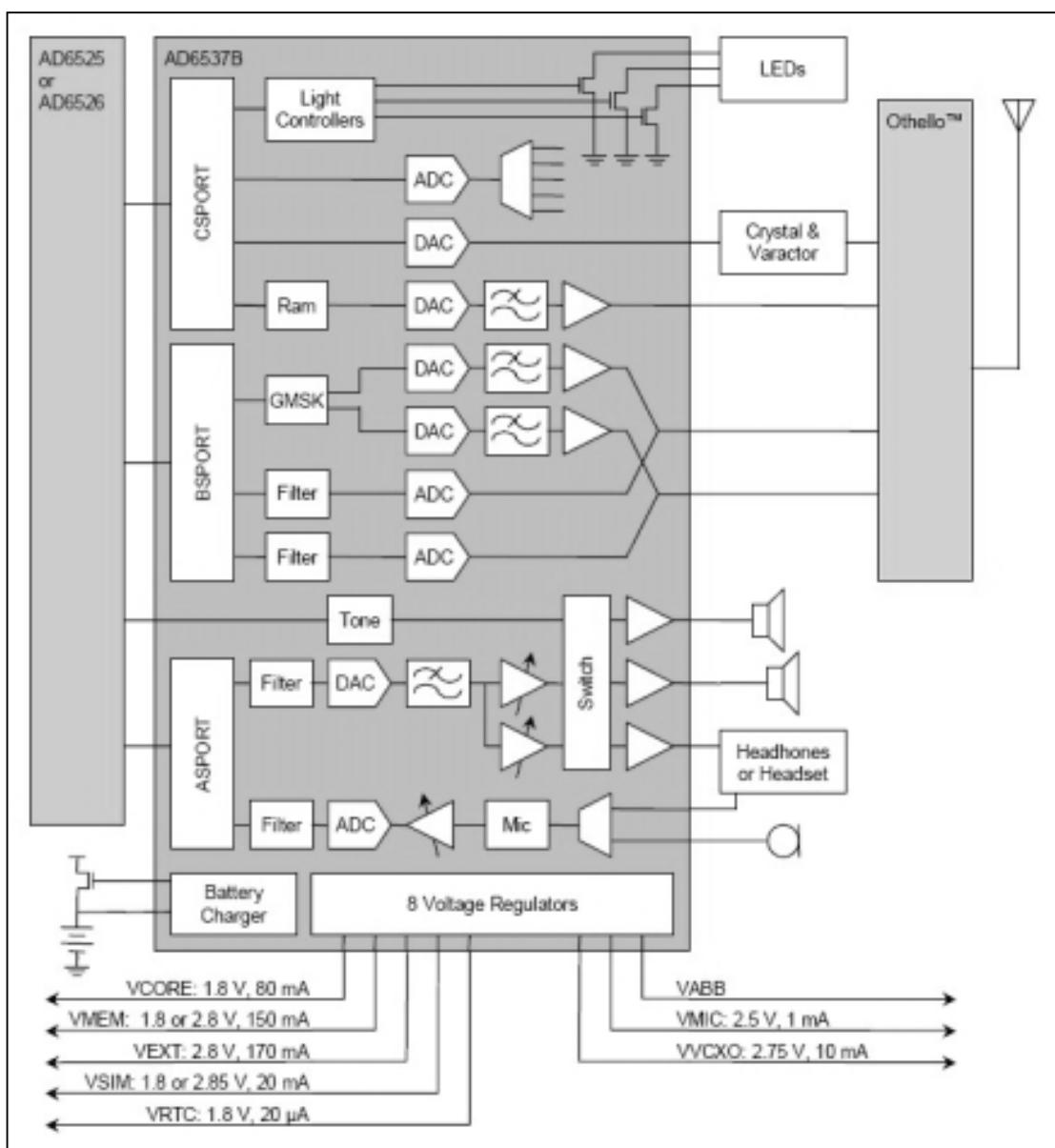
The micro-controller subsystem supports all the GSM terminal software, including the layer 1, 2 and 3 of the GSM protocol stack, the MMI, and applications software such as data services, test and maintenance. It is tightly associated with on-chip system SRAM and also includes boot ROM memory with a small dedicated routine to facilitate the initialization of the external Flash Memory via code download using the on-chip serial interface to the external Flash Memory interface.

The peripheral subsystem is composed of system peripherals such as interrupt controller, real time clock, watch dog timer, power management and a timing and control module. It also includes peripheral interfaces to the terminal functions: keyboard, battery supervision, radio and display. Both the DSP and the MCU can access the peripheral subsystem via the peripheral bus (PBUS).

For program and data storage, both the MCU subsystem and the DSP subsystem can access the on chip system SRAM and external memory such Flash Memory. The access to the SRAM module is made through the RAM Bus (RBUS) under the control of the bus arbitration logic. Similarly, access to the Flash Memory is through the parallel External Bus (EBUS).

3.6 Analog Main & Power Management Processor (AD6537B, U101)

Figure 3-11. AD6537B FUNCTIONAL BLOCK DIAGRAM



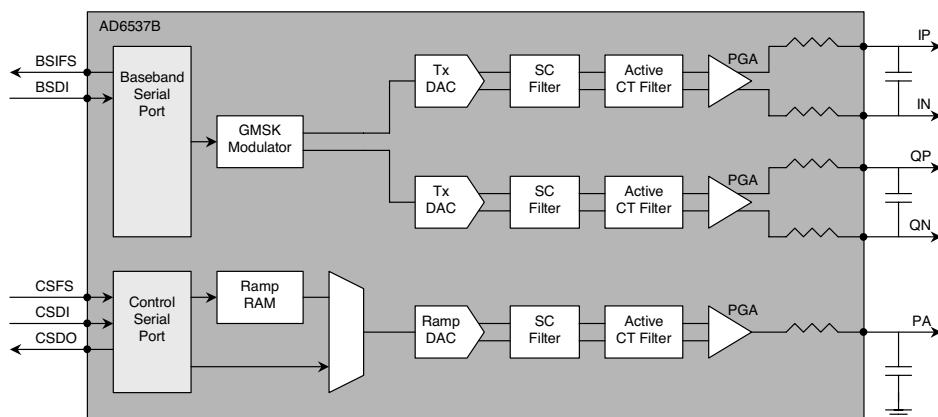
3. TECHNICAL BRIEF

- AD6537B is an ADI designed Analog Baseband processor. AD6537B covers the processing GMSK modulation interface, Aux ADC, Voice signal processing and Power Management.
- AD6537B consists of
 - 1. BB Transmit section
 - GMSK Modulation
 - I-channel & Q-channel Transmit DACs and Filters
 - Power Ramping DAC
 - 2. BB Receive section
 - I-channel & Q-channel Receive ADCs and Filters
 - 3. Auxiliary section
 - Voltage Reference
 - Automatic Frequency Control DAC
 - Auxiliary ADC
 - Light Controllers
 - 4. Audio Section
 - 8 kHz & 16 kHz Voiceband Codec
 - 48 kHz Monophonic DAC
 - Power Amplifiers
 - 5. Power Management section
 - Voltage Regulators
 - Battery Charger
 - Battery Protection
 - 6. Digital Processor section
 - Control, Baseband, and Audio Serial Ports
 - Interrupt Logic

3.6.1 Baseband Transmit Section

1. The AD6537B Baseband Transmit Section is designed to support GMSK for both single-slot and multi-slot application.
2. The transmit channel consists of a digital GMSK modulator, a matched pair of 10-bit DACs and a matched pair of reconstruction filter.

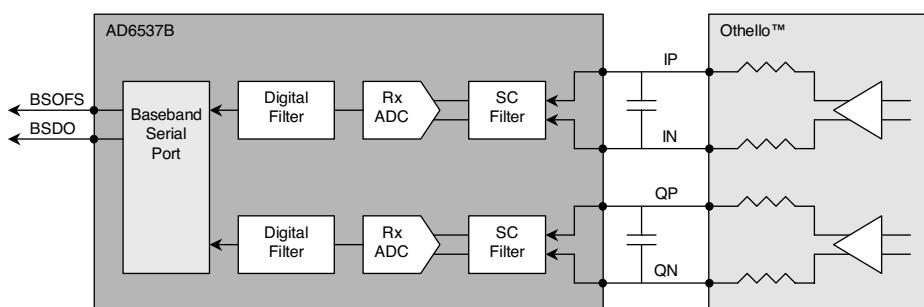
Figure 3-12. AD6537B BASEBAND TRANSMIT SECTION



3.6.2 Baseband Transmit Section

1. This section consists of two identical ADC channels that process baseband in-phase(I) and quadrature(Q) input signals.

Figure 3-13. AD6537B BASEBAND RECEIVER SECTION

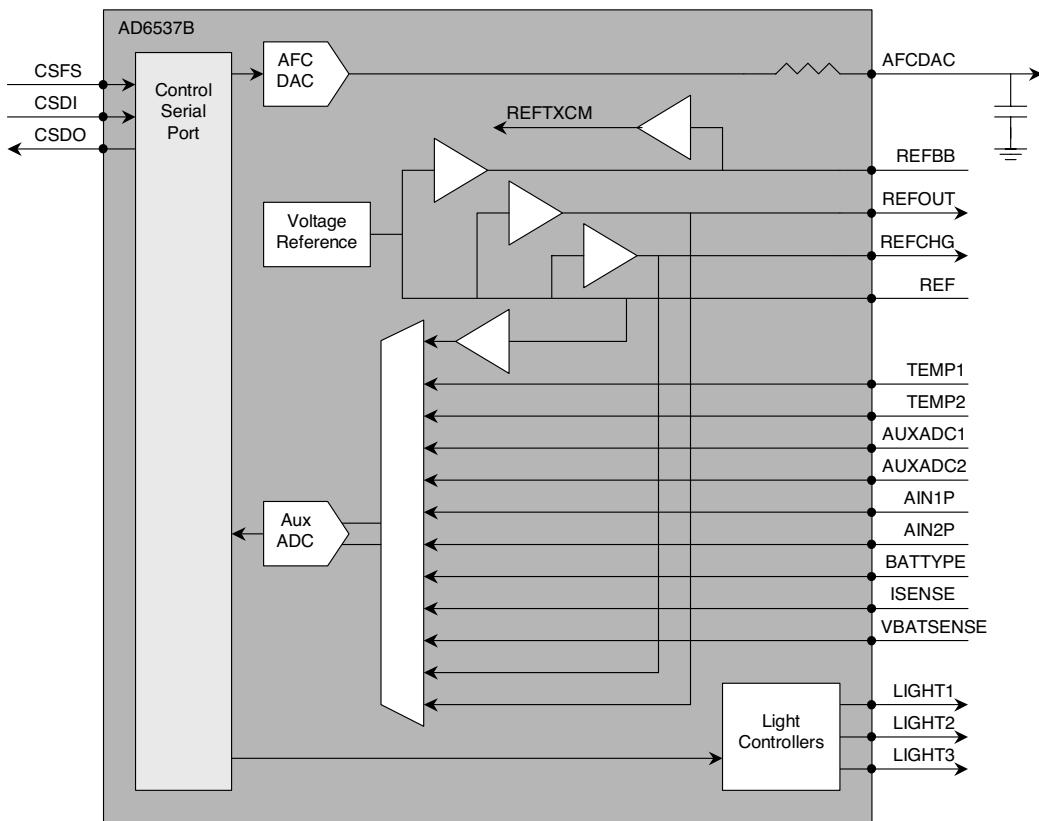


3. TECHNICAL BRIEF

3.6.3 Auxiliary Section

1. This section includes an Automatic Frequency Control(AFC) DAC, voltage reference buffers, an Auxiliary ADC, and light controllers.
 - AFC DAC: 13 bits
2. This section also contains AUX ADC and Voltage Reference
 - IDAC: 10 bits
 - The Auxiliary ADC provides :
 - Two differential inputs for temperature sensing.
 - A differential input for the battery charger current sensor

Figure 3-14. AD6537B AUXILIARY SECTION



3.6.4 Audio Section

1. Receive audio signal from microphone. This model uses differential configuration.
2. Send audio signal to speaker. This model uses differential configuration.
3. This section provides an audio codec with a digital-to-analog converter and an analog-to-digital converter, a ring tone volume controller, a microphone interface, and multiple analog input and output channels.
4. It interconnects with external devices like main microphone, main receiver, and headset.

The descriptions of audio port used in This model are given bellow in detail.

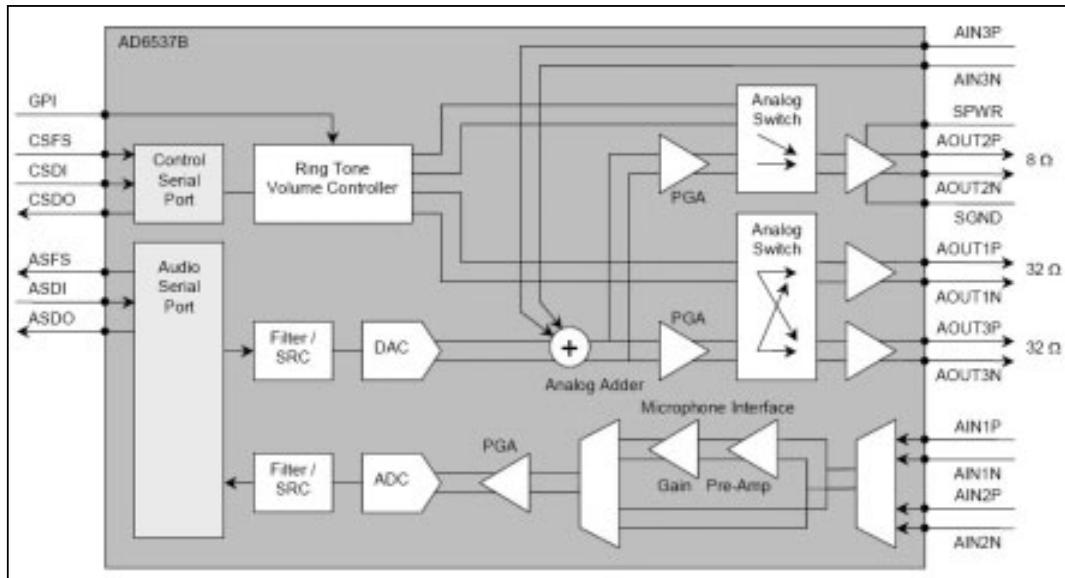
<Up Link>

- AIN1P,AIN1N : Main microphone positive/negative terminal
- AIN2P,AIN2N : Headset microphone positive/negative terminal
- AIN3P,AIN3N : External Analog Input terminal

<Down Link>

- AOUT1P,AOUT1N : Main Speaker positive/negative terminal
- AOUT3P : Headset speaker terminal

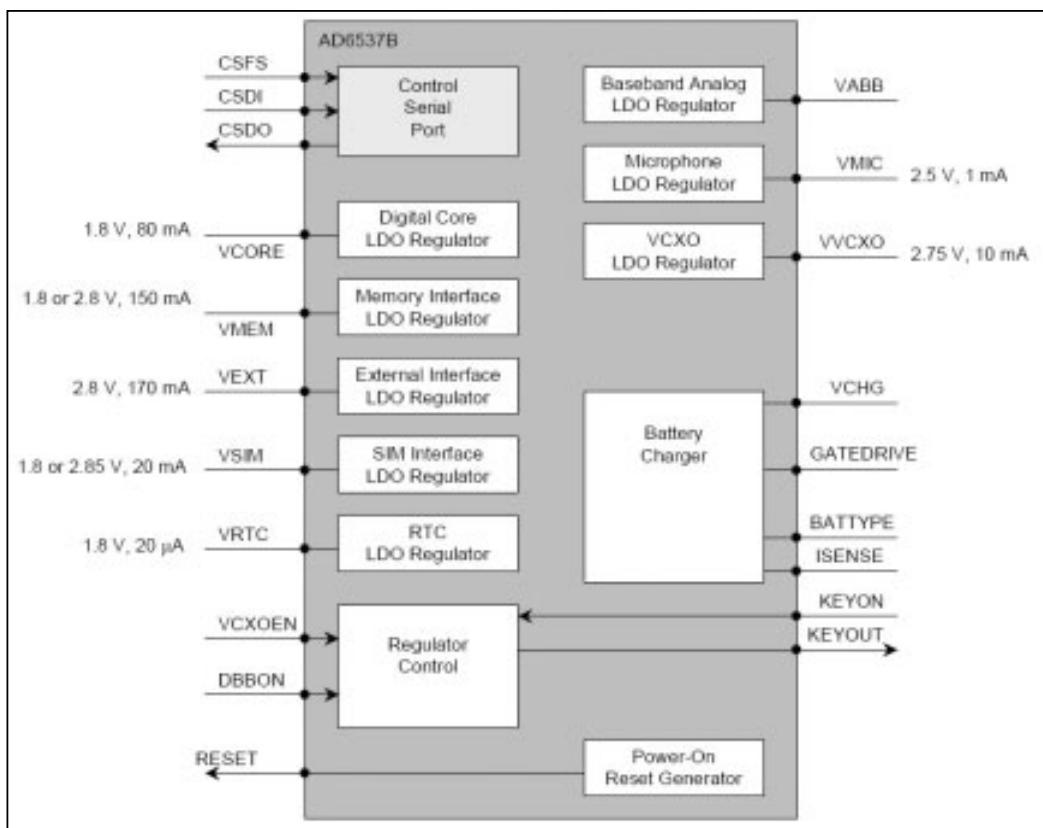
Figure 3-15. AD6537B AUDIO SECTION



3. TECHNICAL BRIEF

3.6.5 Power Management

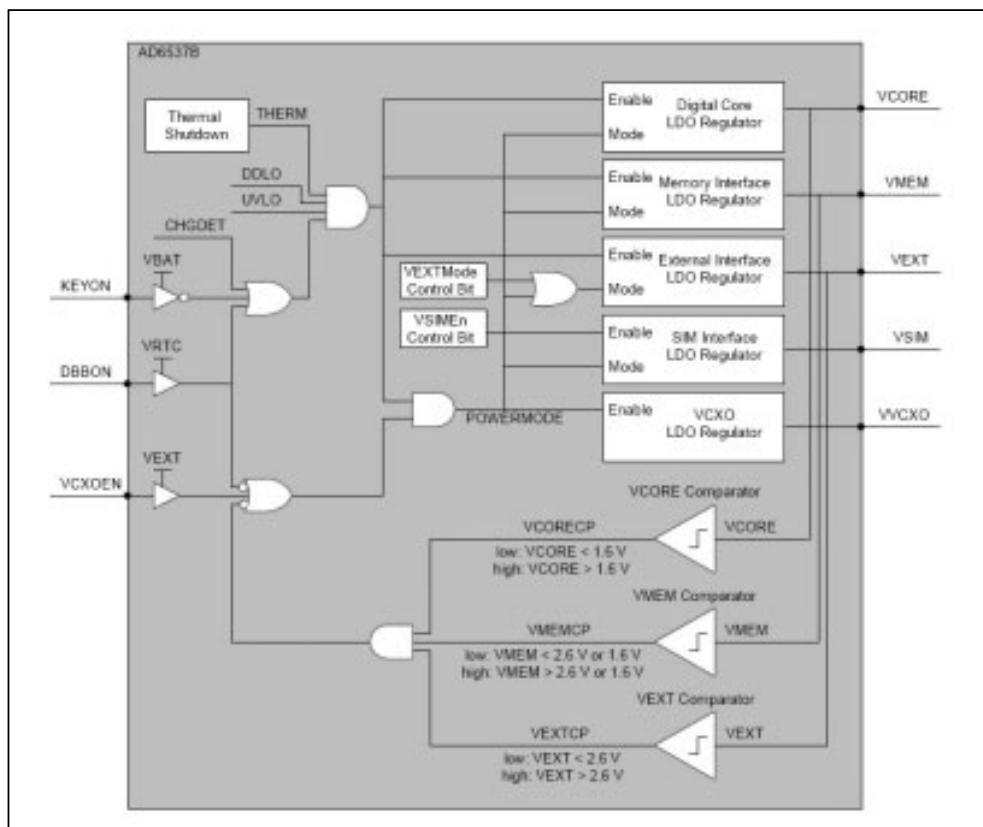
Figure 3-16. AD6537B POWER MANAGEMENT SECTION



1. Power up sequence logic

1. The AD6537B controls power on sequence
2. Power on sequence
 - If a battery is inserted, the battery powers the 8 LDOs.
 - Then if PWRONKEY is detected, the LDOs output turn on.
 - REFOUT is also enabled
 - Reset is generated and send to the AD6527

Figure 3-17. AD6537B POWER MODE LOGIC



2. LDO Block

1. There are 8 LDOs in the AD6537B.
 - VCORE : supplies Digital baseband Processor core and AD6537B digital core (1.8V, 80mA)
 - VMEM : supplies external memory and the interface to the external memory on the digital baseband processor (1.8V or 2.8V, 150mA)
 - VEXT : supplies Radio digital interface and high voltage interface (2.8V, 170mA)
 - VSIM : supplies the SIM interface circuitry on the digital processor and SIM card (1.8V or 2.85V, 20mA)
 - VRTC : supplies the Real-Time Clock module (1.8 V, 20 A)
 - VABB : supplies the analog portions of the AD6537B
 - VMIC : supplies the microphone interface circuitry (2.5 V, 1 mA)
 - VVCXO : supplies the voltage controlled crystal oscillator (2.75 V, 10 mA)

3. TECHNICAL BRIEF

3. Battery Charging Block

1. It can be used to charge Lithium Ion and/or Nickel Metal Hydride batteries.

Charger initialization, trickle charging, and Li-Ion charging control are implemented in hardware.

2. Charging Process

- Check charger is inserted or not
- If AD6537B detects that Charger is inserted, the CC-CV charging starts.
- Exception : When battery voltage is lower than 3.2V, the precharge(low current charge mode) starts firstly.
- And the battery voltage reach to 3.2V the CC-CV charging starts.

3. Pins used for charging

- VCHG : charger supply.
- GATEDRIVE : charge DAC output
- ISENSE : charge current sense input
- VBATSENSE : battery voltage sense input.
- BATTYP : battery type identification input
- REFCHG : voltage reference output

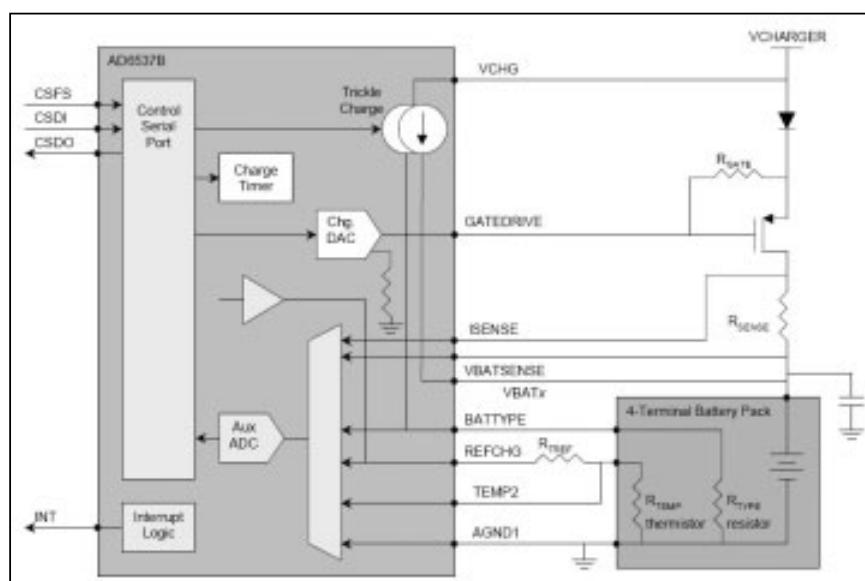
4. TA (Travel Adaptor)

- Input voltage: AC 85V ~ 260V, 50~60Hz
- Output voltage: DC 5.2V (0.2 V)
- Output current: Max 800mA (50mA)

5. Battery

- Li-ion battery (Max 4.2V, Nom 3.7V)
- Standard battery: Capacity - 830mAh

Figure 3-18. AD6537B BATTERY CHARGING BLOCK



3. TECHNICAL BRIEF

Figure 3-19. S5000 HEADSET SPEAKER CIRCUIT (AD6537B)

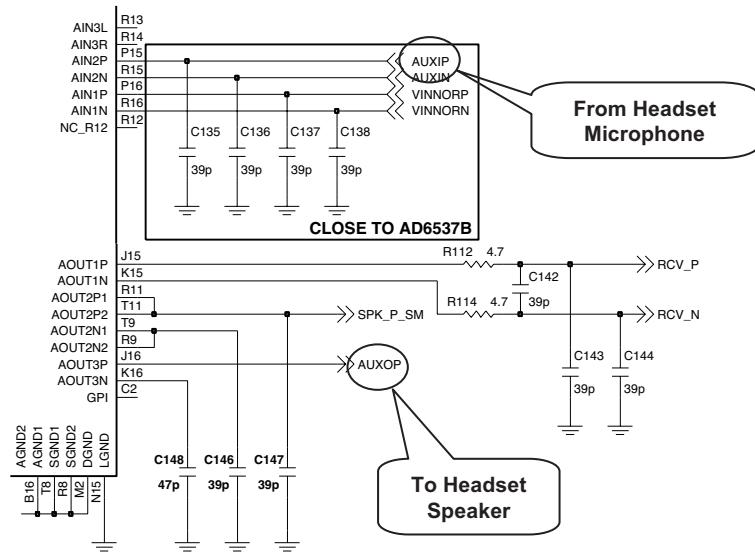
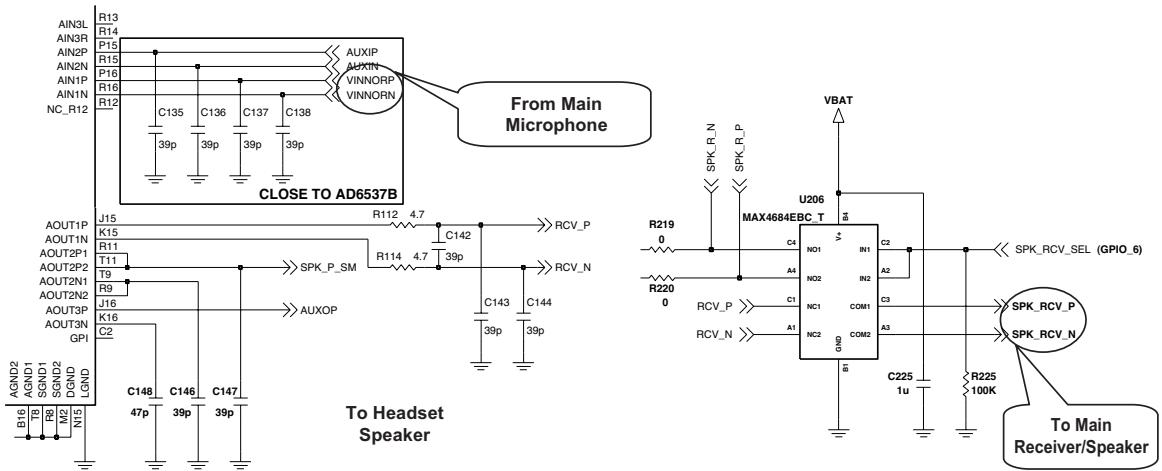
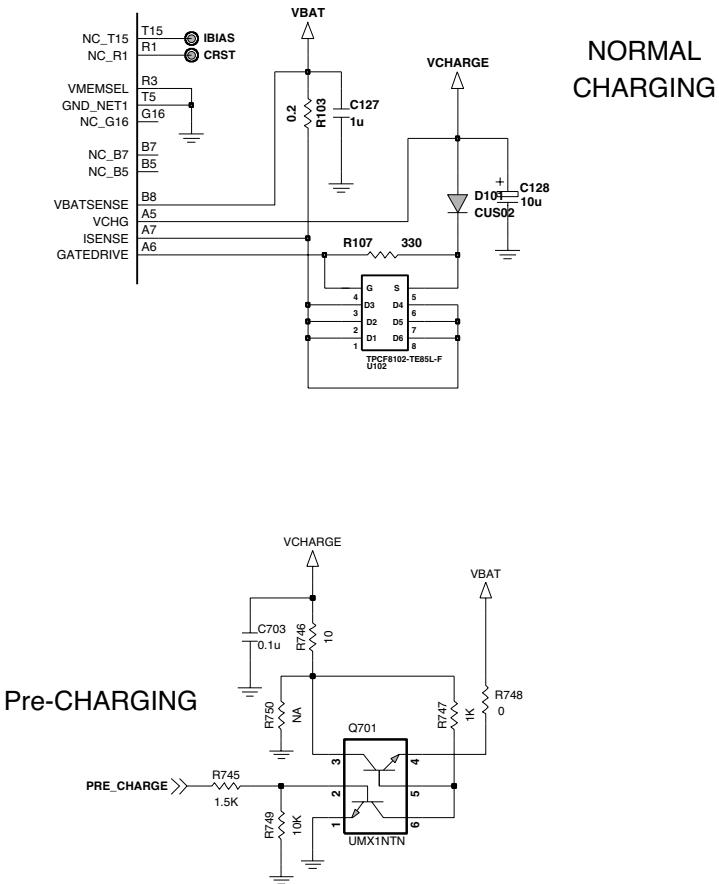


Figure 3-20. S5000 HEADSET SPEAKER CIRCUIT (AD6537B)



3. TECHNICAL BRIEF

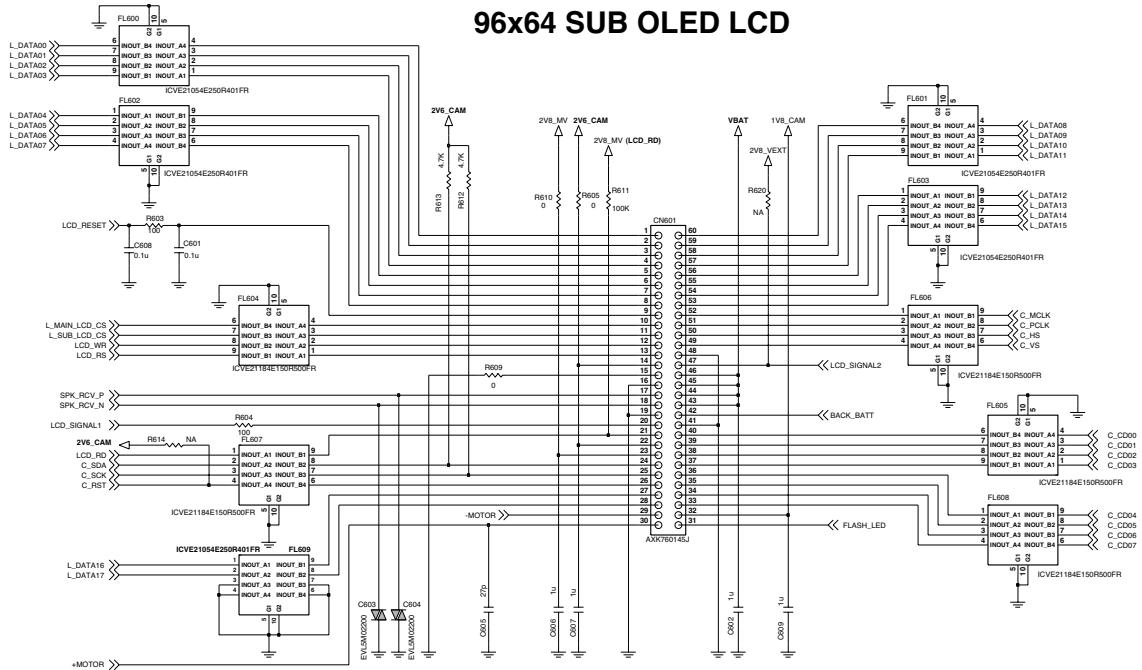
Figure 3-21. CIRCUIT FOR BATTERY CHARGING AT AD6537B



In order to reduce time for trickle charging, additional circuit(Pre-charge circuit) was included. This circuit has supplied Max 160mA current into the battery additionally. So call it, it reduce trickle charging time

3.7 LCD MODULE

**1.3M Pixel CAMERA
128x160 MAIN OLED-LCD
96x64 SUB OLED LCD**



Controlled by L_MAIN_LCD_CS, L_SUB_LCD_CS, LCD_RESET, LCD_RS, LCD_WR, LCD_RD, L_DATA[00:15] ports

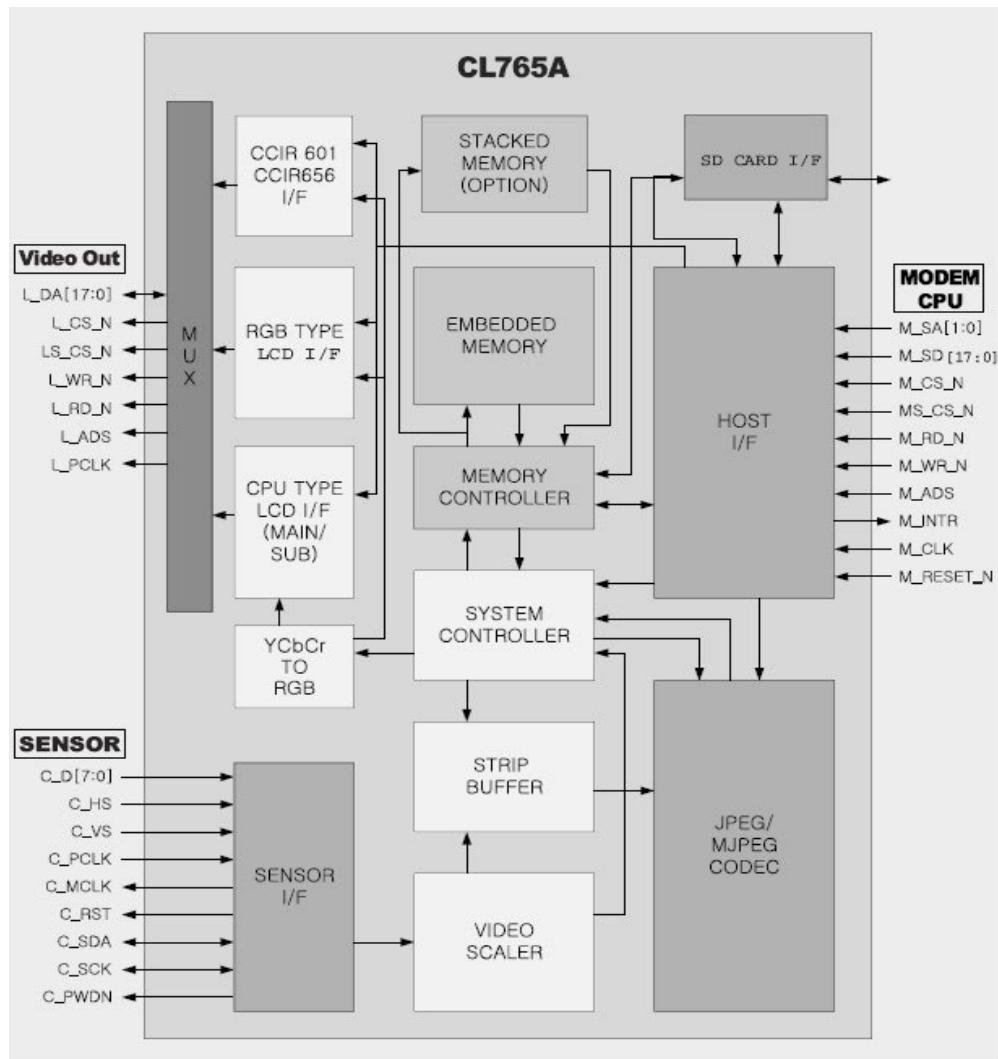
- L_MAIN_LCD_CS : MAIN LCD driver chip enable. MAIN LCD driver IC has own CS pin
- LCD_RST : This pin resets LCD module. This signal comes from DBB directly.
- LCD_RS: This pin determines whether the data to LCD module are display data or control data.
- L_WR : Write control Signal
- L_RD : Read control Signal. But this pin used only for debugging.
- L_DATA[00:15] : Parallel data lines.
- LCD_SIGNAL1 : LCD type selection signals
- For using 65K color, data buses should be 16 bits..

3. TECHNICAL BRIEF

3.8 Camera

The CL765A contains various highly-advanced functions such as fully-hardwired JPEG codec, image scaler for digital Zoom Function, MJPEG codec, high-speed Image data processing, OSD and so on. For the system level integration, the CL765A provides various off-chip interfaces including CMOS/CCD camera sensor interface, LCD interface, SD card interface and CCIR601/656 interface for external TV encoder interface.

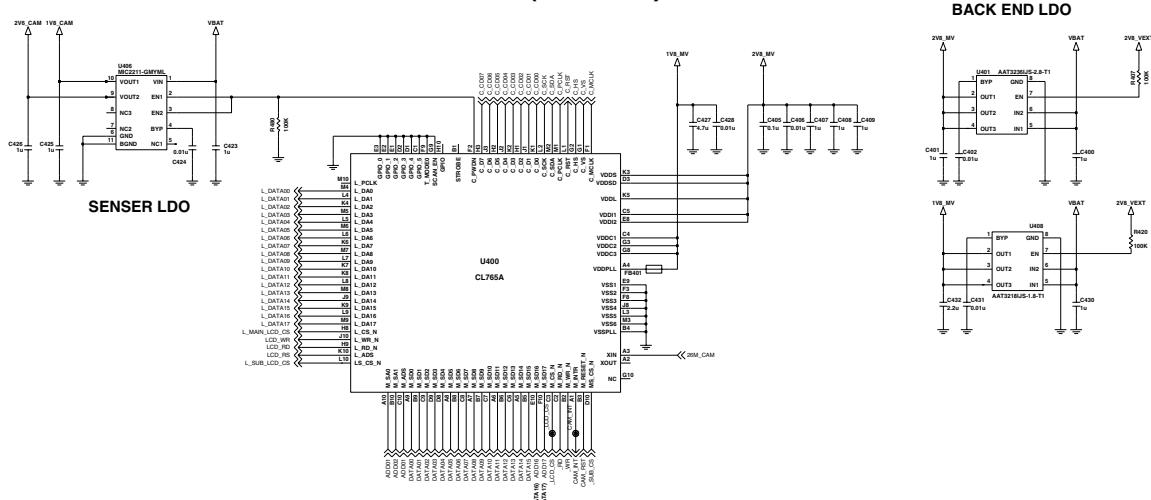
Figure 3-24. CL765A BLOCK DIAGRAM



3. TECHNICAL BRIEF

Figure 3-26. CL765A CAMERA IC CIRCUIT

CAMERA IC (CL765A)



- A. Camera Interface : Allows you to use the built-in camera to take photos with the phone . The phone encodes up to 640 x 480 size with free size support.
- B. U403 : Camera back-end IC. Camera signal is delivered from Camera Sensor to Camera IC(Q401).
- C. U406,U400,U402,404 : Regulator for U403 and Camera sensor.

3. TECHNICAL BRIEF

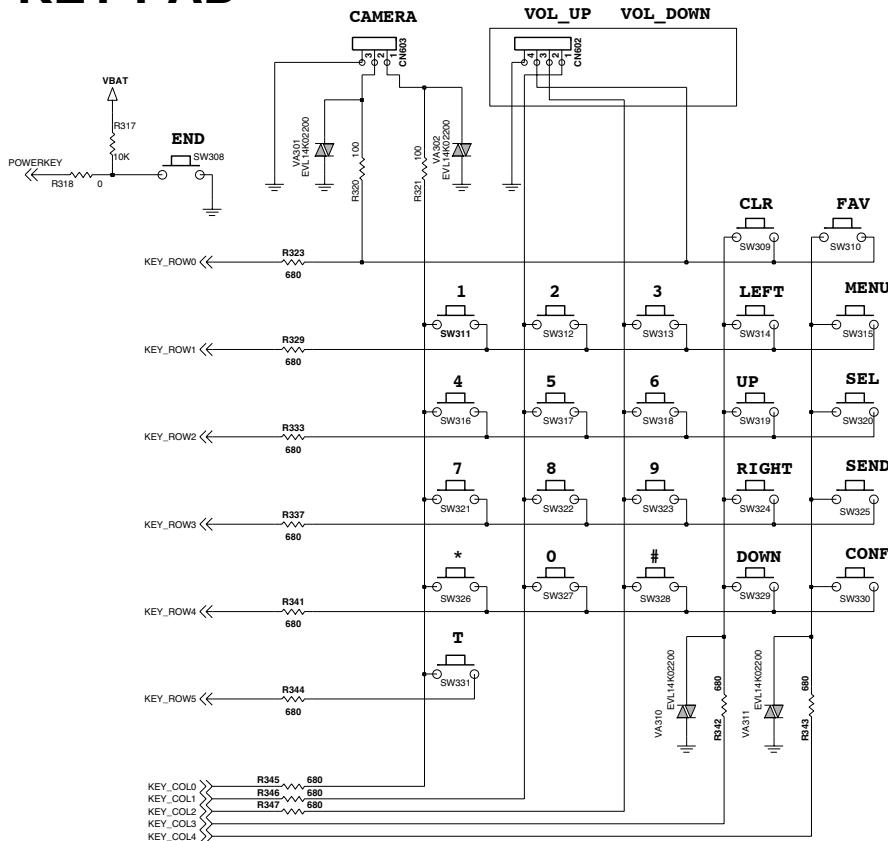
3.9 Keypad Switches and Scanning

The key switches are metal domes, which make contact between two concentric pads on the keypad layer of the PCB when pressed. There are 27 switches (Normal Key 24EA, Camera side key, Volume up down side key), connected in a matrix of 5 rows by 5 columns and additional GPIO 35 for KEY_ROW5, as shown in Figure 3-24, except for the power switch (KB1), which is connected independently. Functions, the row and column lines of the keypad are connected to ports of AD6527. The columns are outputs, while the rows are inputs and have pull-up resistors built in.

When a key is pressed, the corresponding row and column are connected together, causing the row input to go low and generate an interrupt. The columns/rows are then scanned by AD6527 to identify the pressed key.

Figure 3-27. Keypad Switches and Scanning

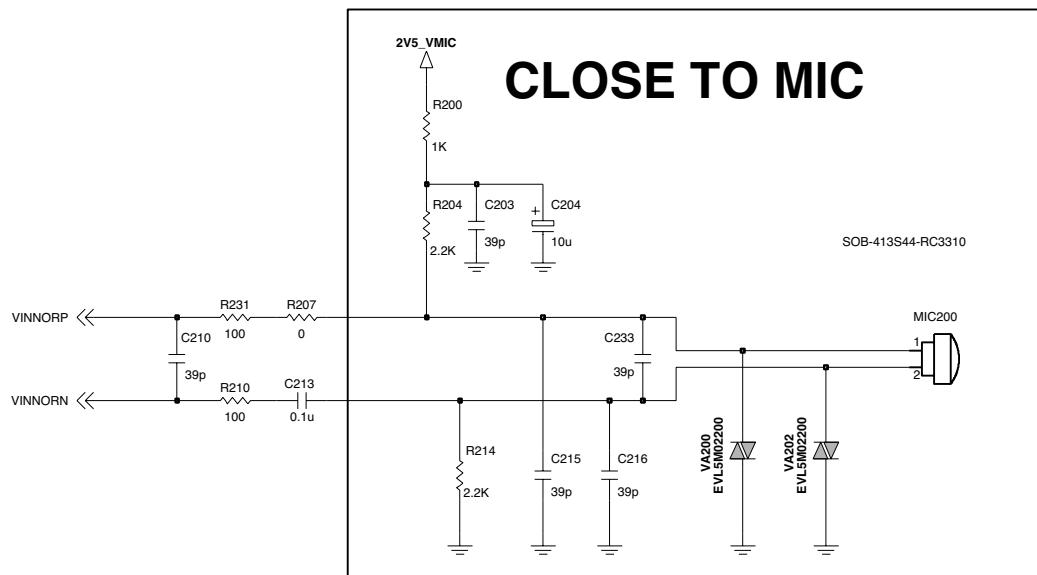
KEY PAD



3.10 Microphone

The microphone is placed to the front cover and contacted to main PCB. The audio signal is passed to AIN1P and AIN1N pins of AD6537B. The voltage supply VMIC is output from AD6537B, and is a biased voltage for the AIN1P. The AIN1P and AIN1N signals are then A/D converted by the voiceband ADC part of AD6537B. The digitized speech (PCM 8KHz ,16KHz) is then passed to the DSP section of AD6527 for processing (coding, interleaving etc).

Figure 3-28. Connection between Microphone and AD6537B



3.11 Main Speaker

In the case of G692 , there are 3 different speakers. One is main speaker for the received voice, another are loud speaker for playback of ring tone , key tone and other MIDI sounds and the other is headset speaker.

The main speaker is driven directly from AD6537B AOUT1P and AOUT1N pins and the gain is controlled by the PGA in an AD6537B. The receiver is placed in the folder cover and connected to AOUT1x terminal via FPCB.

3. TECHNICAL BRIEF

3.12 Headset Interface

This phone chooses a 5 pin type headset which has 6 electrodes such as GND, AUXIP, AUXIN (this pin is floating), AUXOP, JACK_DETECT, HOOK_DETECT. This type supports stereo sound

Switching from Receiver to Headset Jack

If jack is inserted, JACK_DETECT goes from low to high.

Audio path is switched from receiver to earphone by JACK_DETECT interrupt.

Switching from Headset Jack to Receiver

If jack is removed, JACK_DETECT goes from high to low.

Audio path is switched from earphone to receiver by JACK_DETECT interrupt.

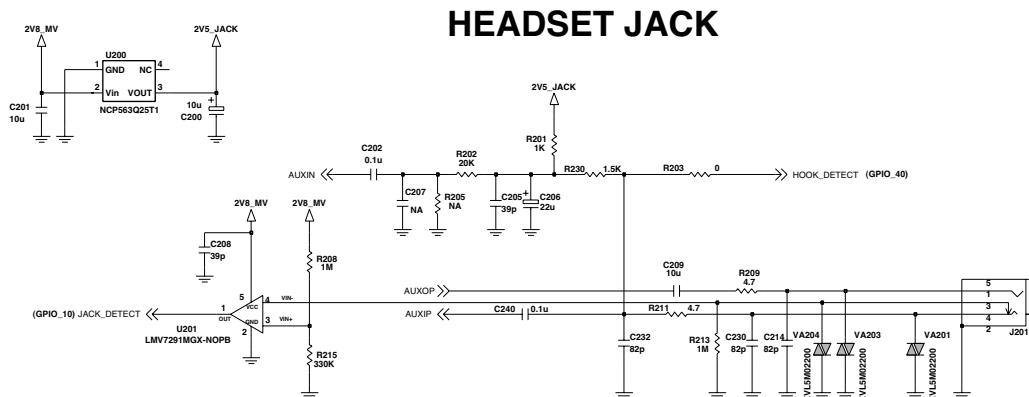
Hook detection

If hook-button is pressed, HOOK_DETECT is changed from high to low.

This is detected by AUXADC2.

And then hook is detected.

Figure 3-29. HEADSET JACK INTERFACE

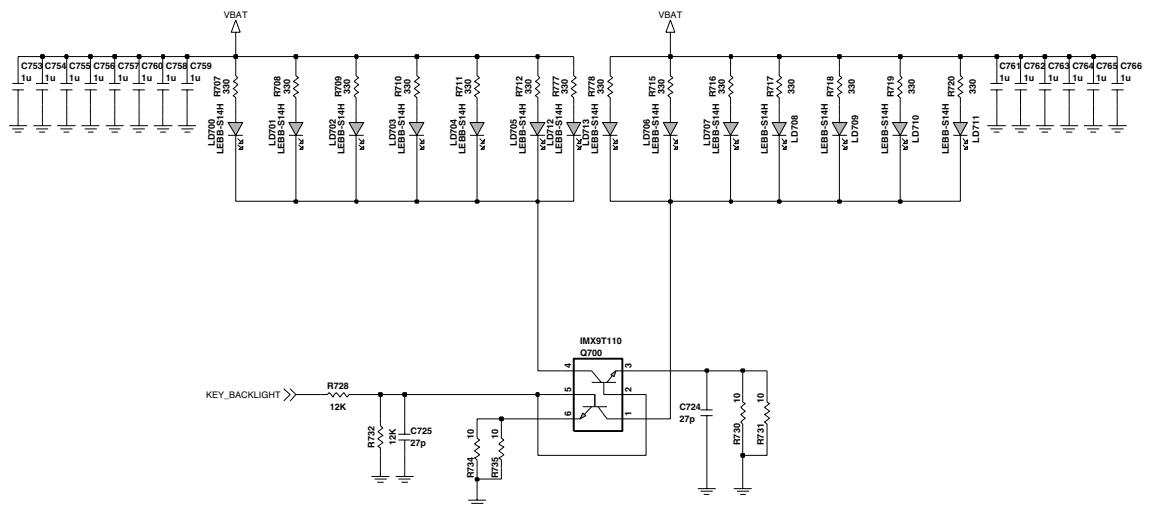


3.13 Key Back-light Illumination

In key back-light illumination, there are 12 Blue LEDs in Main Board, which are driven by KEY_BACKLIGHT signal from AD6527.

Figure 3-30. KEY BACK-LIGHT ILLUMINTION

KEY BACKLIGHT



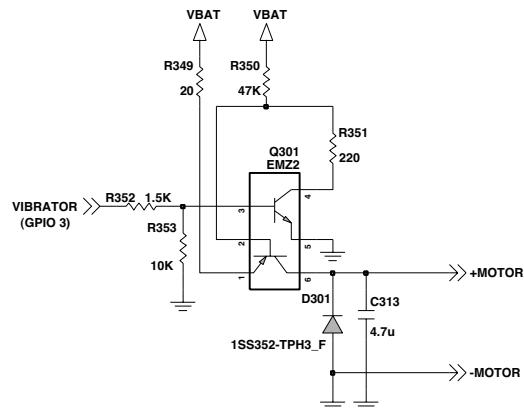
3. TECHNICAL BRIEF

3.14 VIBRATOR

The vibrator is placed in the folder cover and contacted to LCD MODULE. The vibrator is driven from VIBRATOR (GPIO_3) of AD6527.

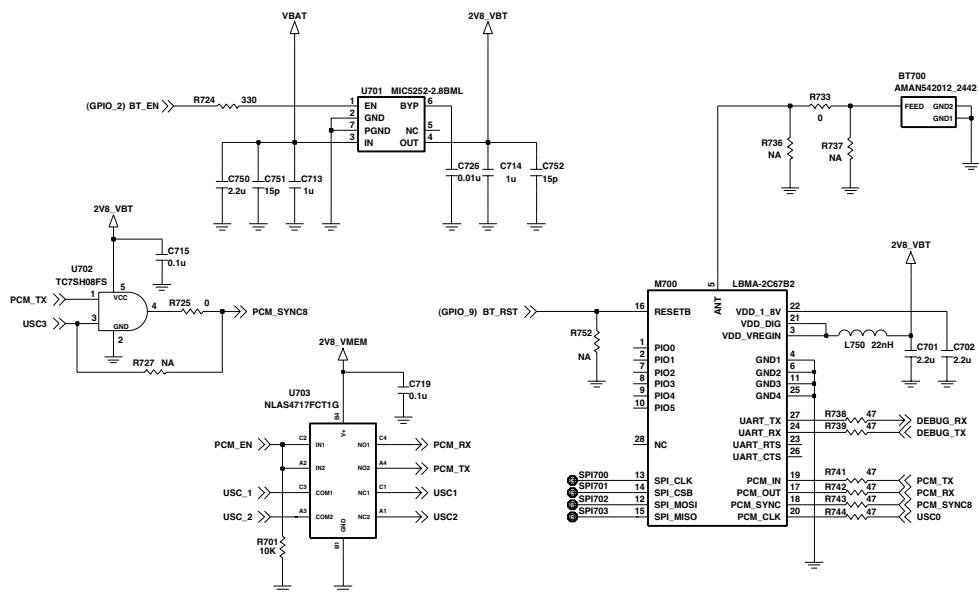
Figure 3-32. MOTOR

VIBRATOR



3.15 Bluetooth Section Description (M700)

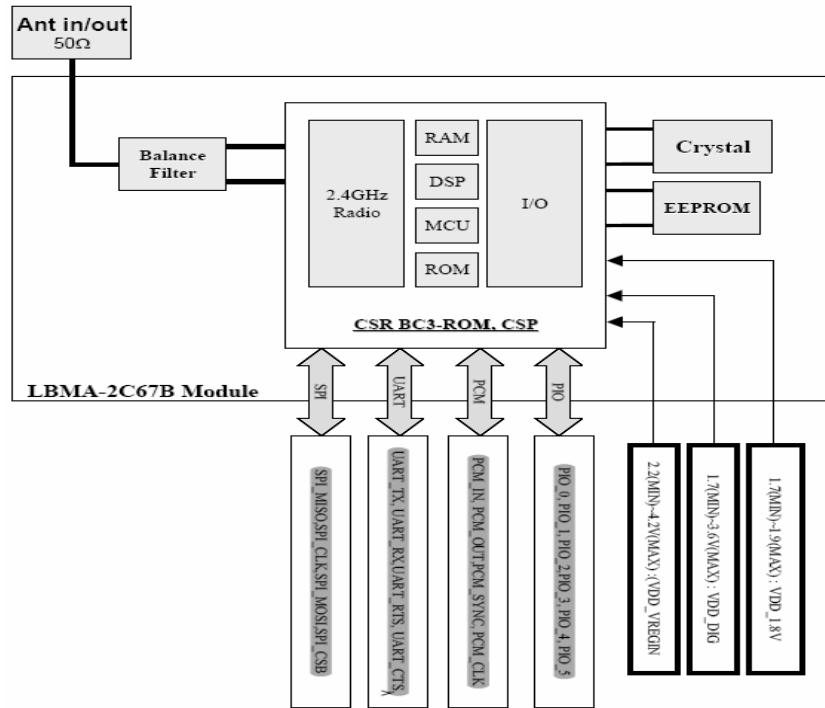
BLUETOOTH



- 1) U701(MIC5252-2.8BML) : Provide power for bluetooth block
- 2) U702(TC7SH08FS) : PCM Sync Clock rate converter for bluetooth clock(8kHz)
- 3) U703(NLAS4717FCT1G) : Analog switch for bluetooth block
- 4) M700(LBMA-2C67B2) : Bluetooth module

3. TECHNICAL BRIEF

3.16.1 Bluetooth Circuit Description (M700)



Bluetooth Module Features

- Output power(Class2) : 1.0 dBm Typ.
- Receiver Sensitivity : -83 dBm Max.
- Dimensions : 6.9*7.9*1.5 (unit: mm)
- Wide operating temperature range(Target) : -40 to 85C (Storage: -40 to 100C)
- D.C Supply voltage range : 1.8V or 3.0V(Nominal)
- Interfaces : UART and SPI for data and PCM for voice
- Stack layer : HCI or RFCOMM
- Compatibility with Bluetooth Specification 1.2

4. TROUBLE SHOOTING

4.1 RF Component

Test Points

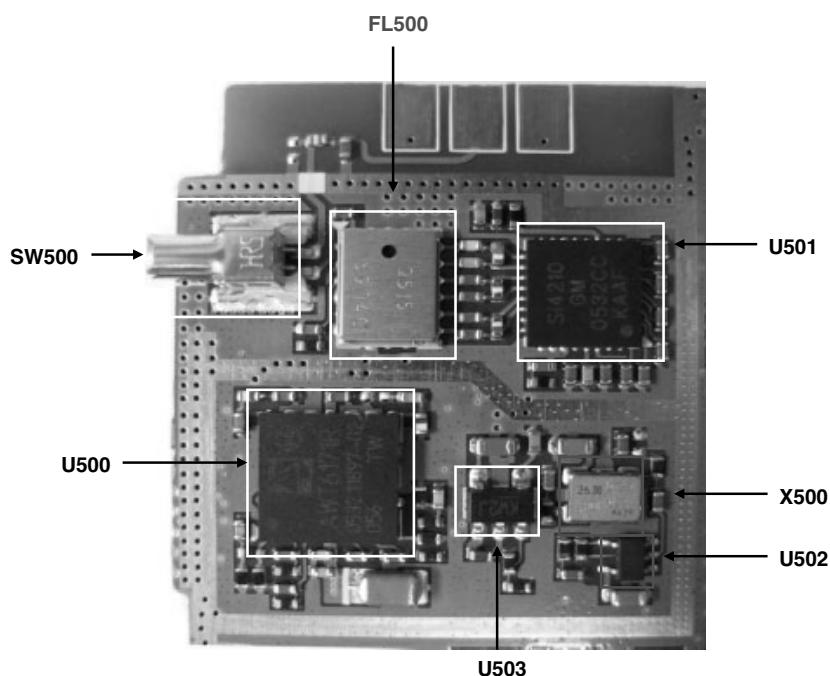


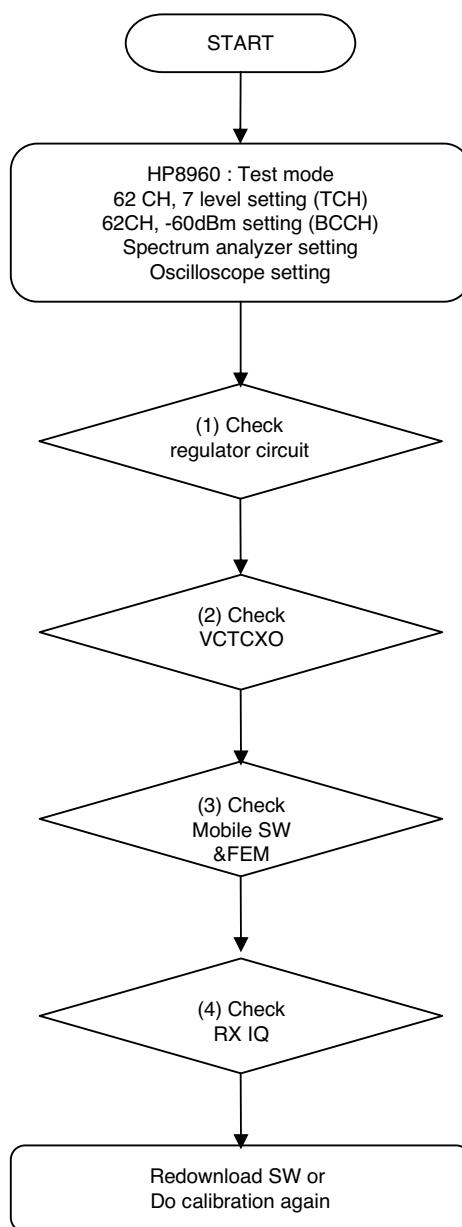
Figure 4-1

U500	Power Amp Module(AWT6171)
U501	RF Main Chip (SI4210)
U502	Inverter
U503	2.85V Regulator
X500	VCTXO, 26MHz Clock
FL500	FEM
SW500	Mobile Switch

4. TROUBLE SHOOTING

4.2 RX Trouble

Checking Flow



4. TROUBLE SHOOTING

(1) Checking Regulator Circuit

Test Points

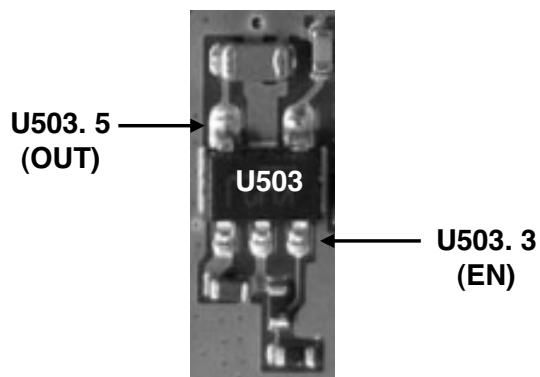
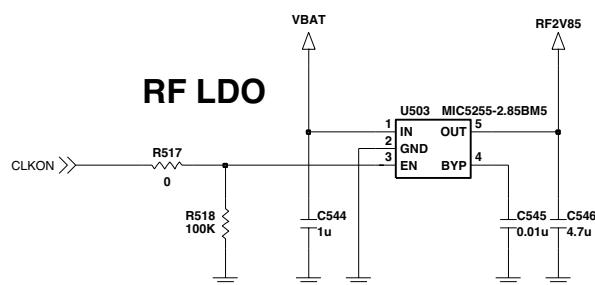
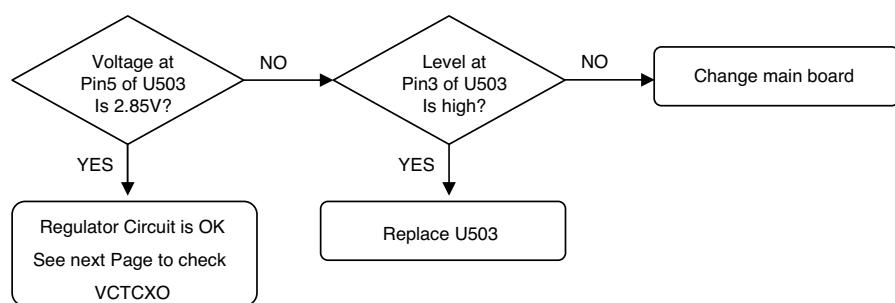


Figure 4-2

CIRCUIT



Checking Flow



4. TROUBLE SHOOTING

(2) Checking VCTCXO Circuit

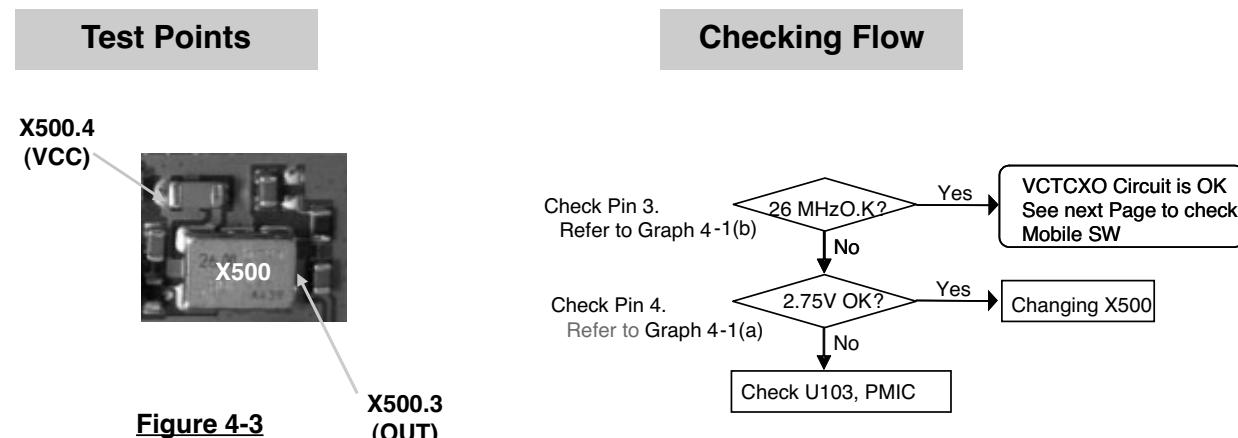
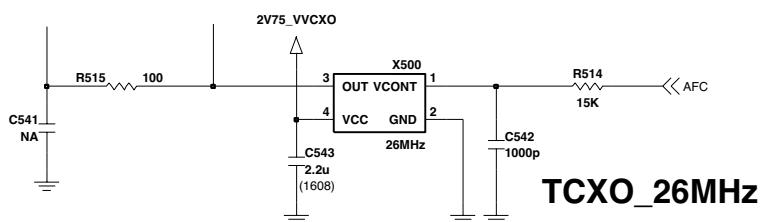
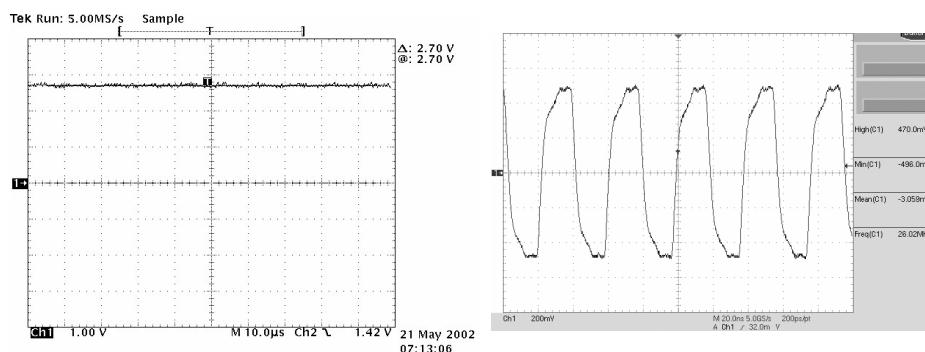


Figure 4-3

CIRCUIT



Waveform



Graph 4-1(a)

Graph 4-1(b)

4. TROUBLE SHOOTING

(3) Checking Mobile SW & FEM

Test Points

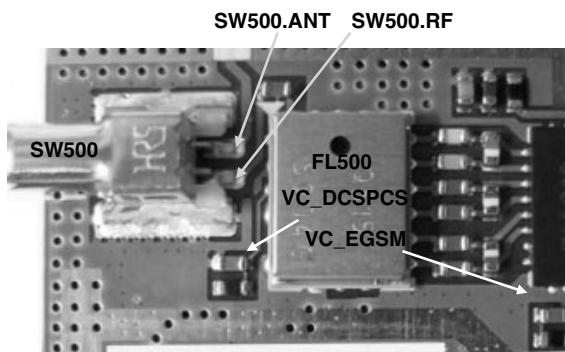
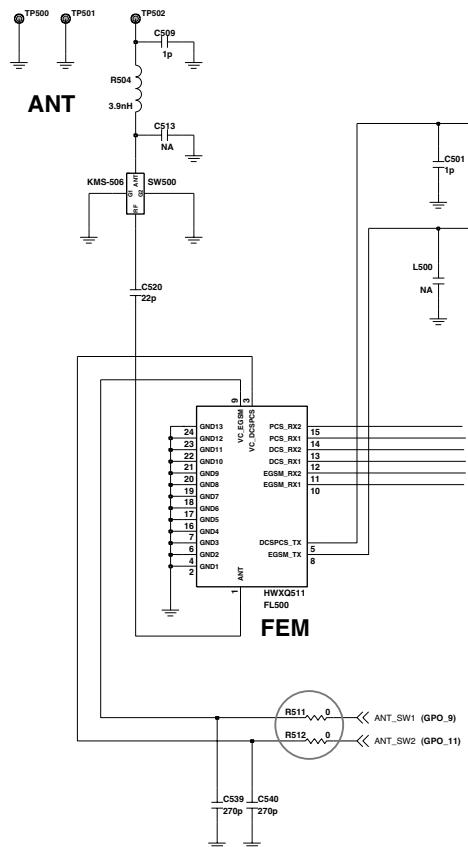
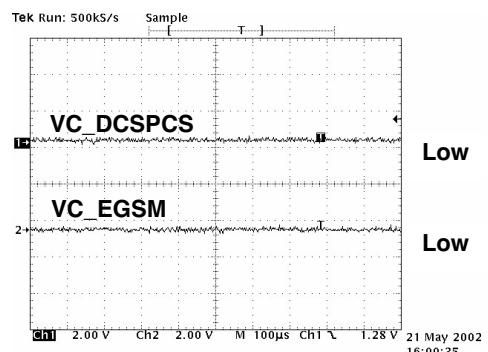


Figure 4-4

Circuit Diagram



Waveform



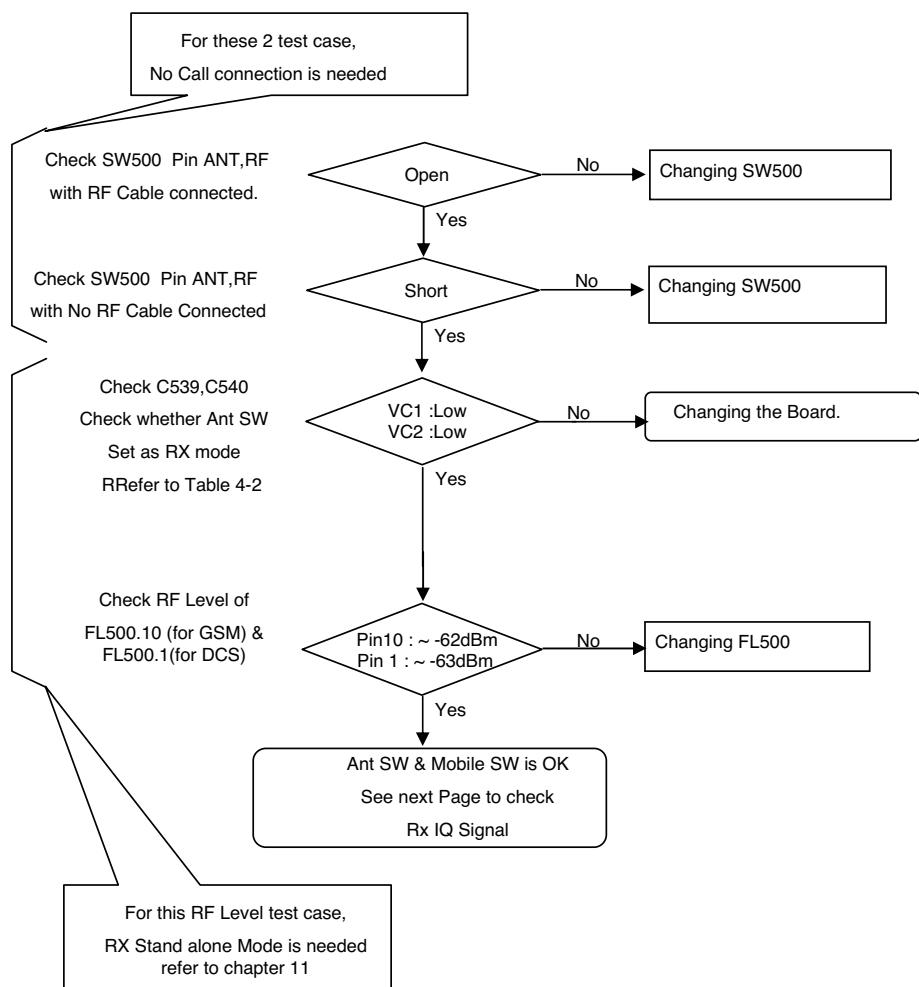
ANT SW Control GSM& DCS RX Mode
Graph 4-2

	ANT_SW1	ANT_SW2
GSM_TX	HIGH	LOW
DCS_TX	LOW	HIGH
RX	LOW	LOW

Table 4-1

4. TROUBLE SHOOTING

Checking Flow



	ANT_SW1	ANT_SW2
GSM_TX	HIGH	LOW
DCS_TX	LOW	HIGH
RX	LOW	LOW

Table 4-2

4. TROUBLE SHOOTING

(4) Checking RX IQ

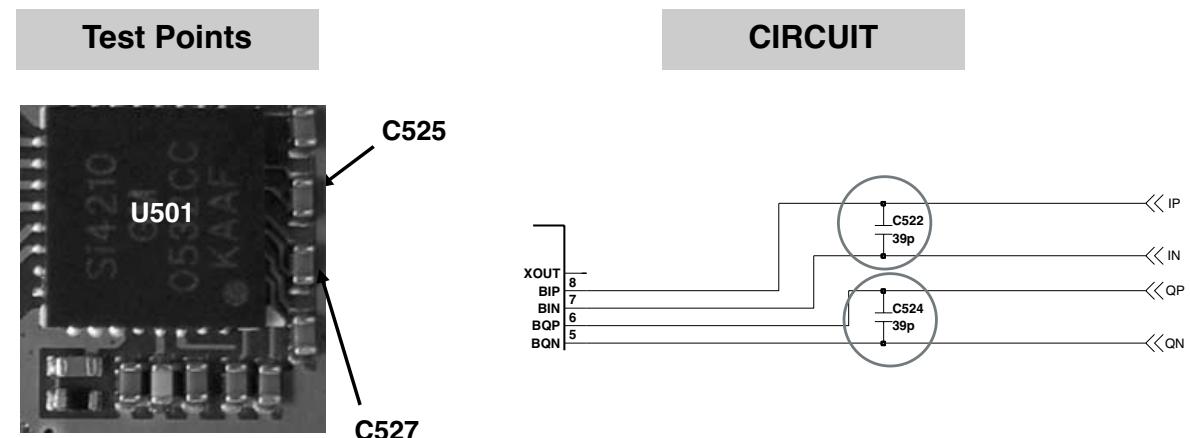
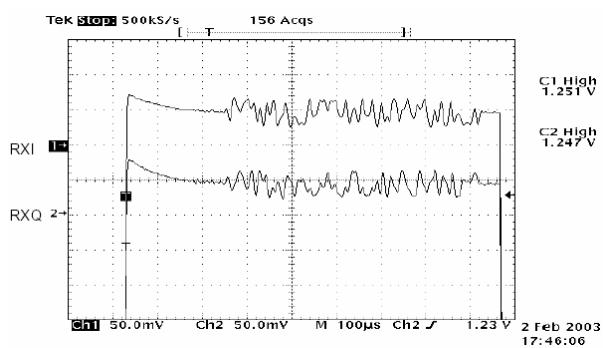


Figure 4-5

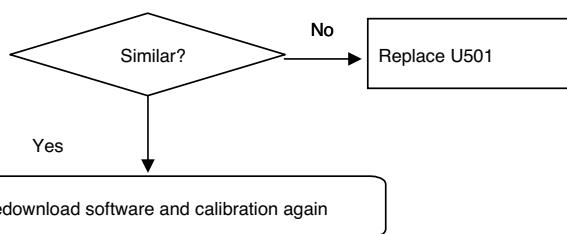
Waveform



Graph 4-3

Checking Flow

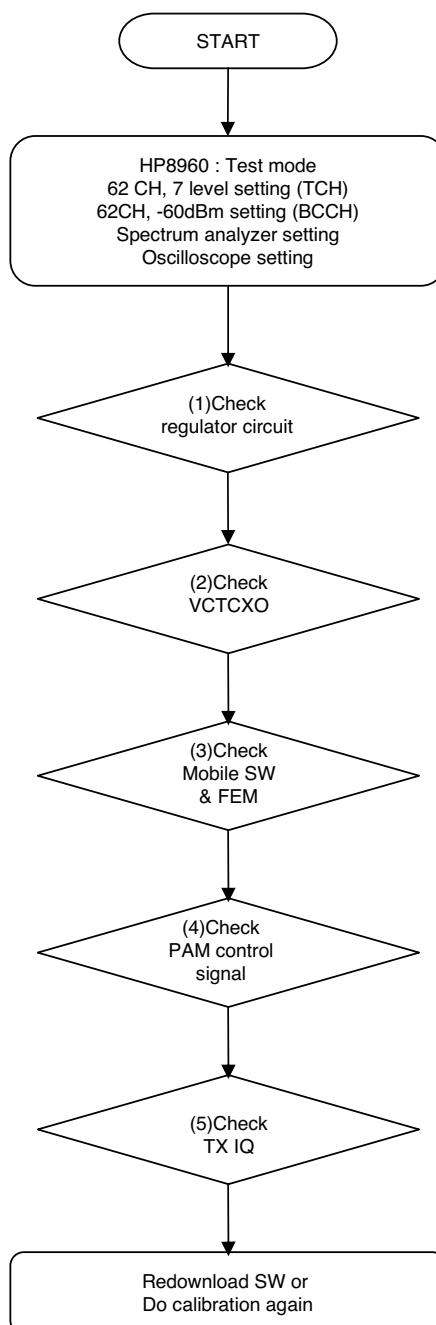
Check C522,C524.
Check if there is any
Major difference
Refer to graph 4-3



4. TROUBLE SHOOTING

4.3 TX Trouble

Checking Flow



4. TROUBLE SHOOTING

(1) Checking Regulator Circuit

Test Points

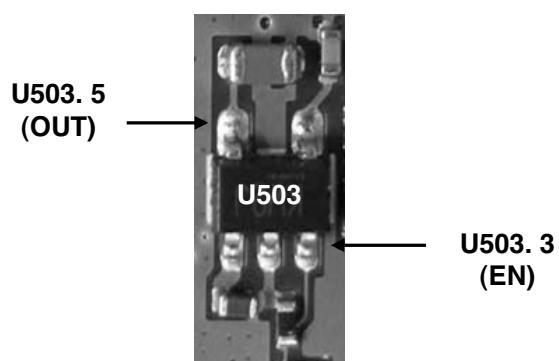
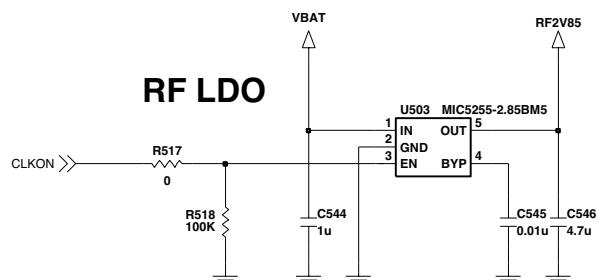
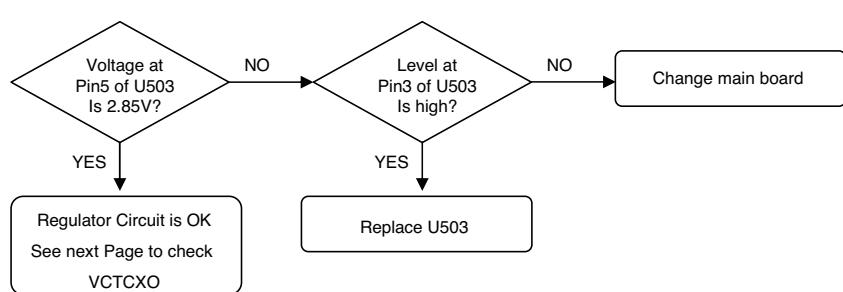


Figure 4-8

CIRCUIT



Checking Flow



4. TROUBLE SHOOTING

(2) Checking VCTCXO Circuit

Test Points

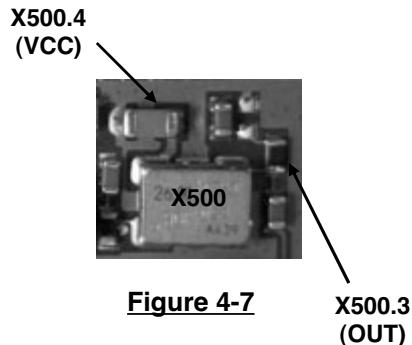
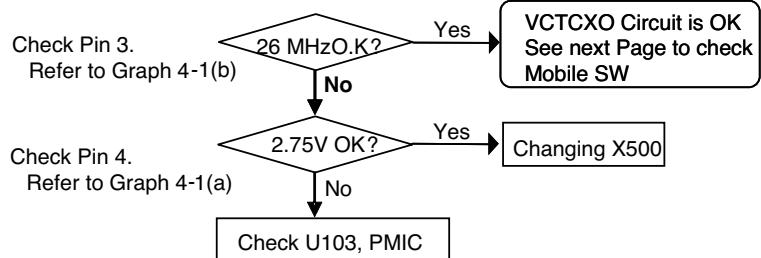
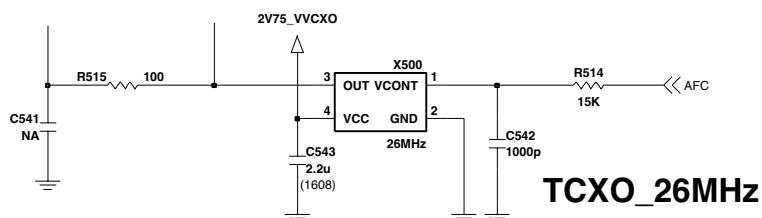


Figure 4-7

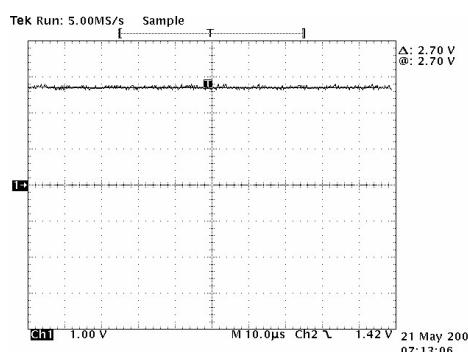
Checking Flow



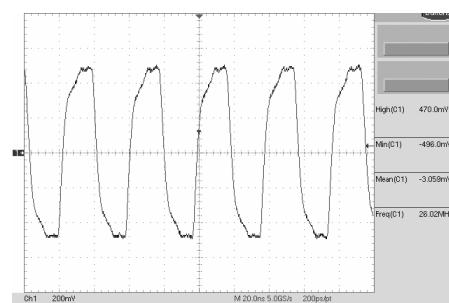
CIRCUIT



Waveform



Graph 4-4(a)



Graph 4-4(b)

4. TROUBLE SHOOTING

(3) Checking Mobile SW & FEM

Test Points

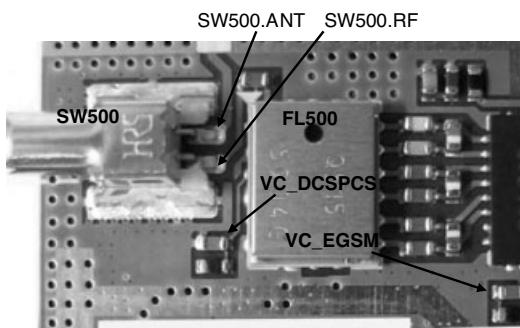
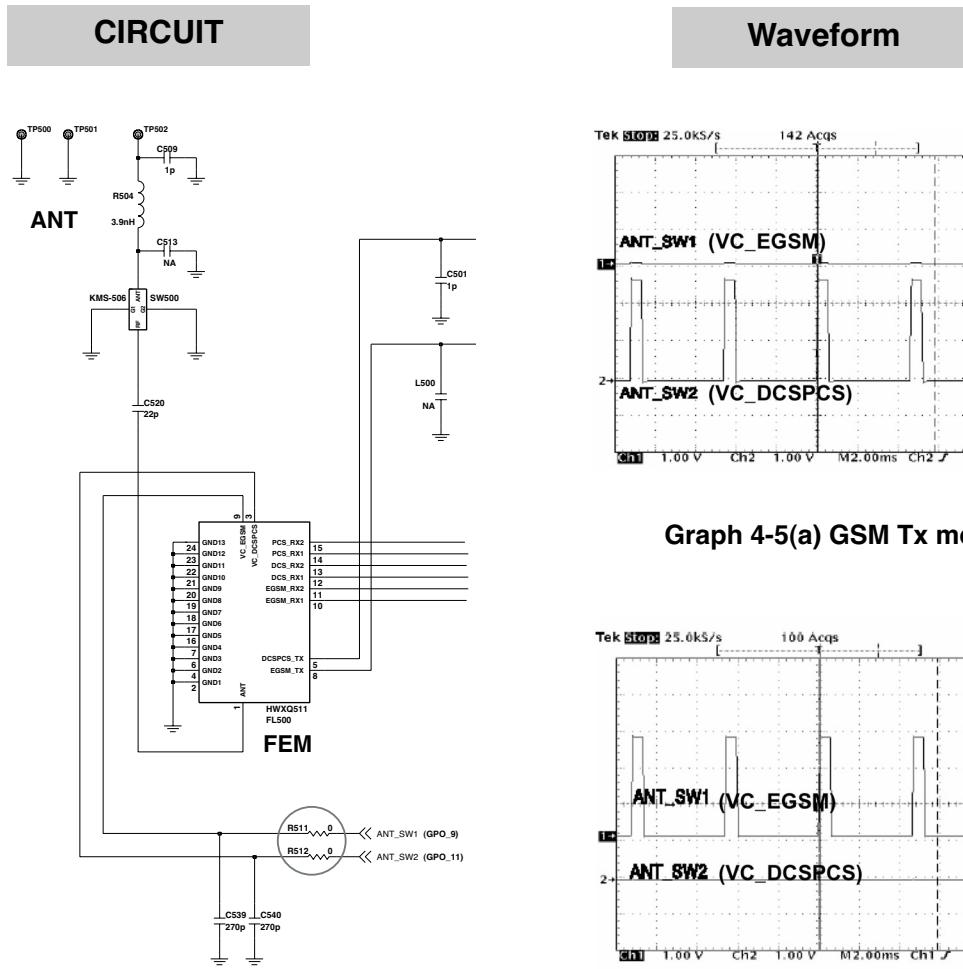
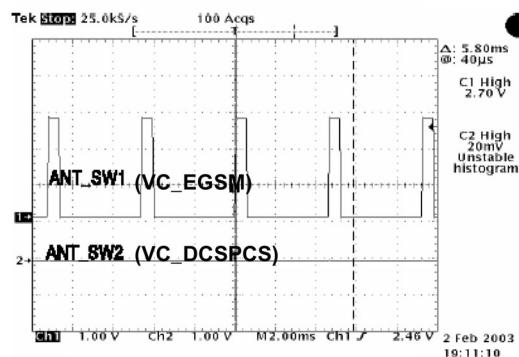


Figure 4-8



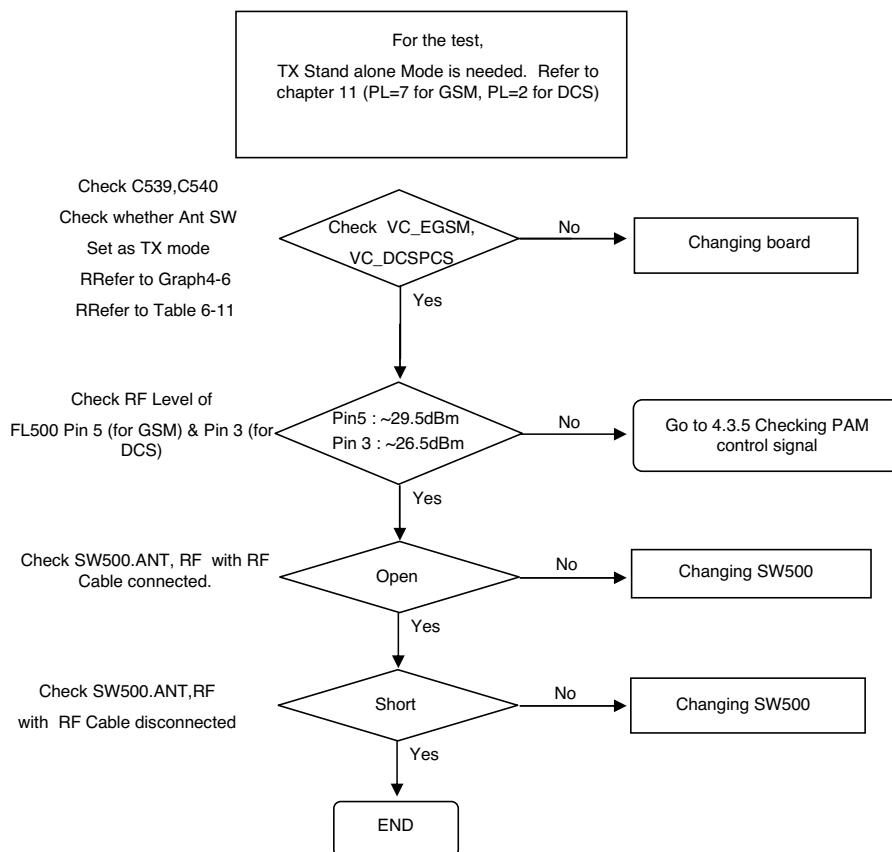
Graph 4-5(a) GSM Tx mode



Graph 4-5(b) DCS,PCS Tx mode

4. TROUBLE SHOOTING

Checking Flow



ANT SW	VC_EGSM	VC_CDSPCS
DCS TX	0	1
EGSM TX	1	0
EGSM, DCS RX	0	0

Table 4-3

4. TROUBLE SHOOTING

(4) Checking PAM Control Signal

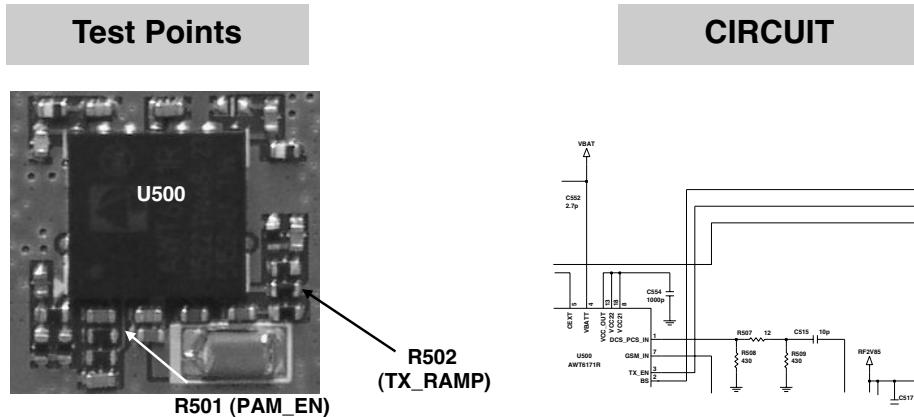
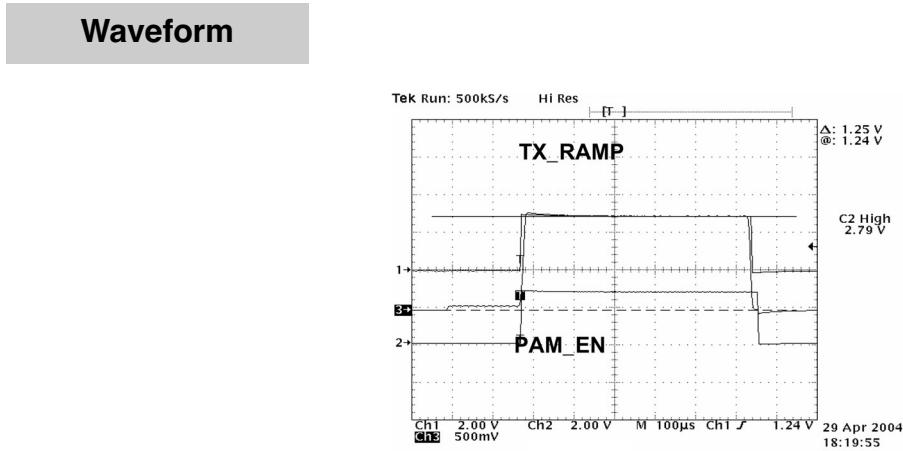


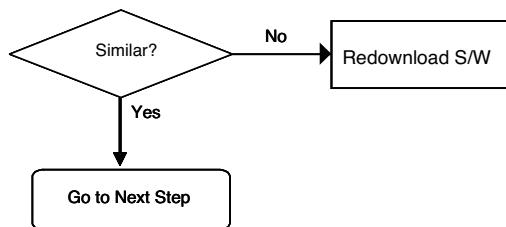
Figure 4-9



Graph 4-6



Check TX_RAMP and PA_EN
Check if there is
Any Major Difference or not
Refer to Graph 4 - 7



4. TROUBLE SHOOTING

(5) Checking TX IQ

Test Points **Waveform**

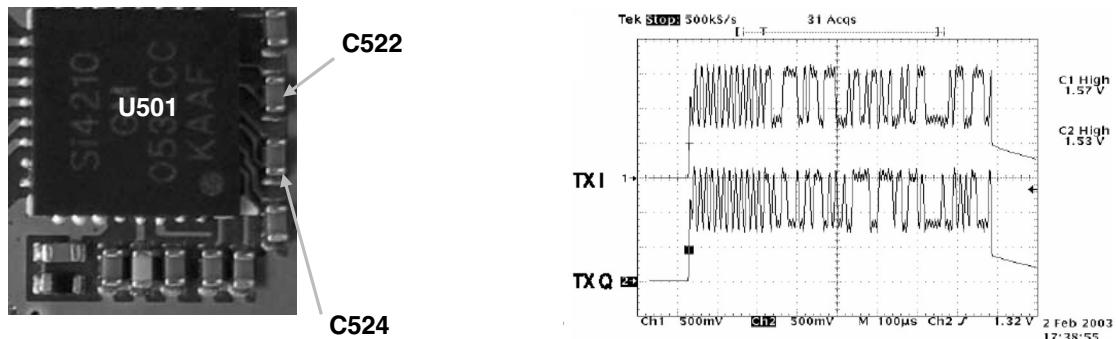
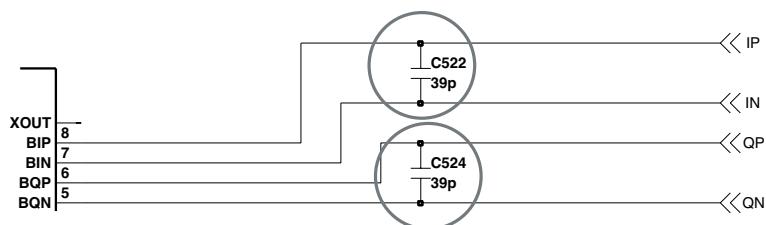


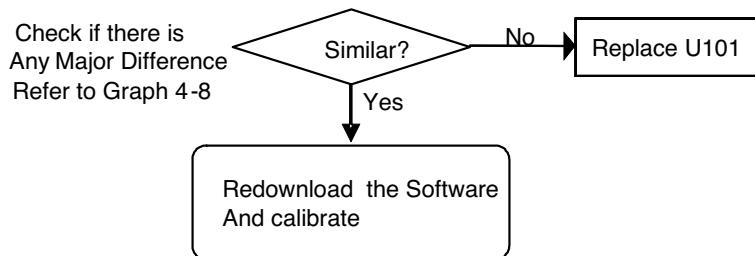
Figure 4-10

Graph 4-7

CIRCUIT



Checking Flow



4.4 Power On Trouble

Test Points

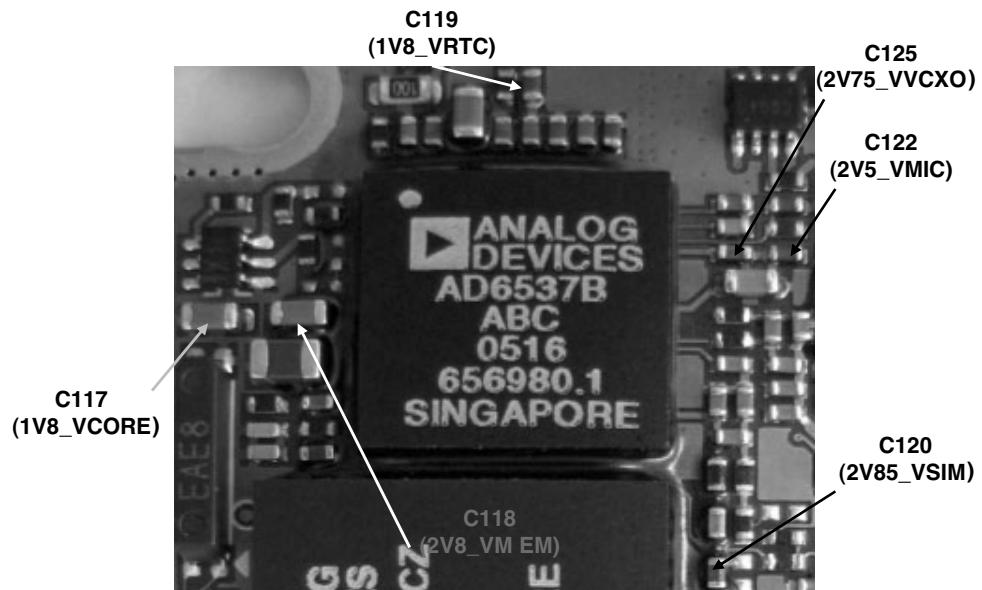
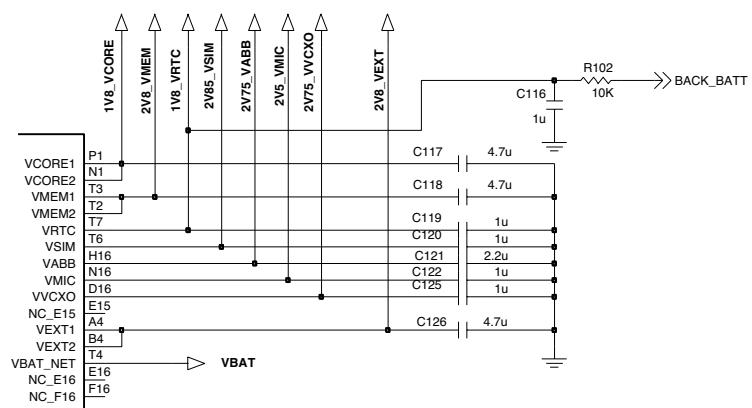


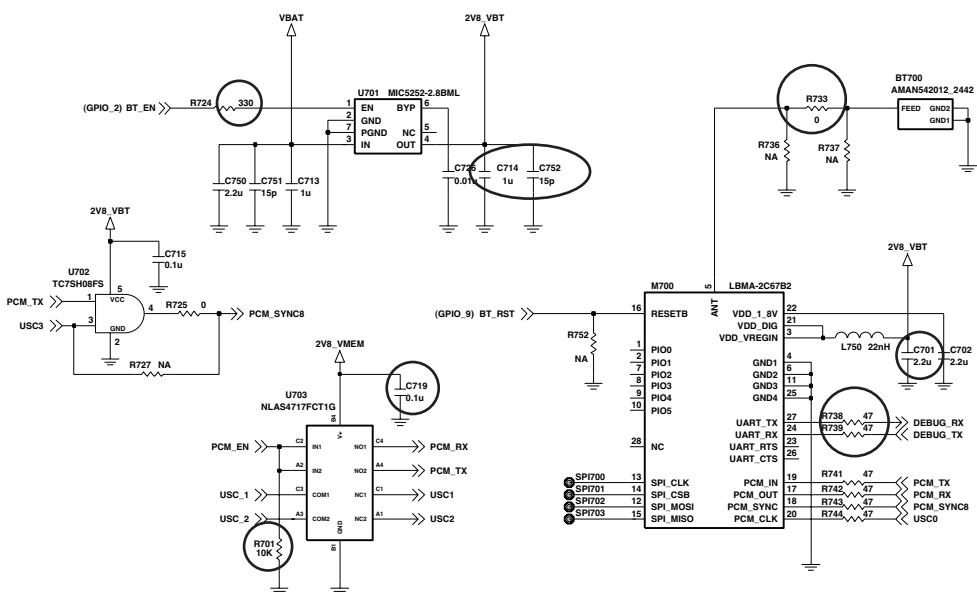
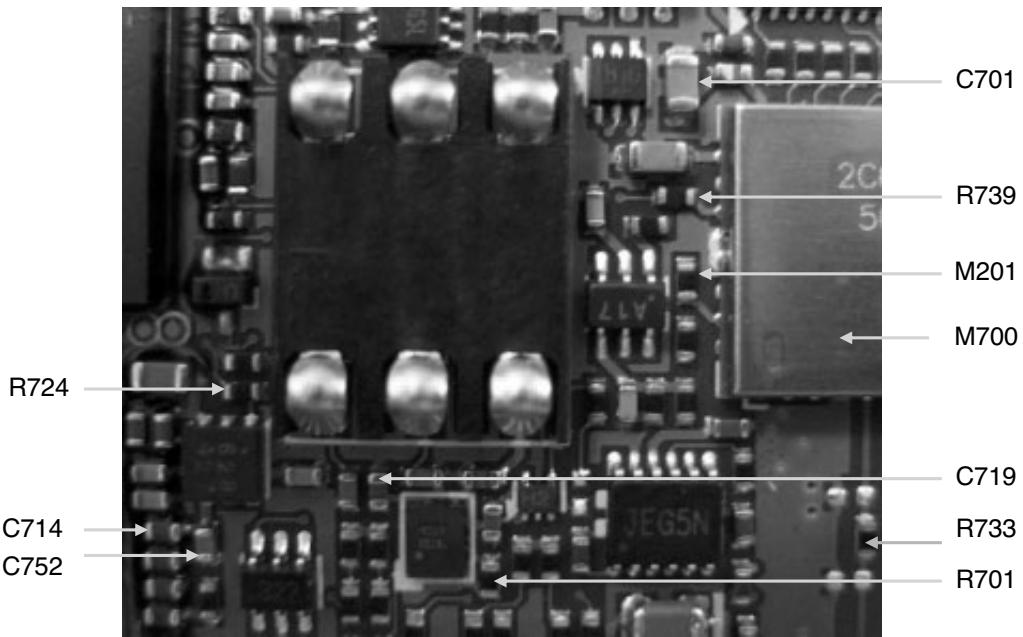
Figure 4-11

CIRCUIT



4. TROUBLE SHOOTING

Test Points



4. TROUBLE SHOOTING

Checking Flow

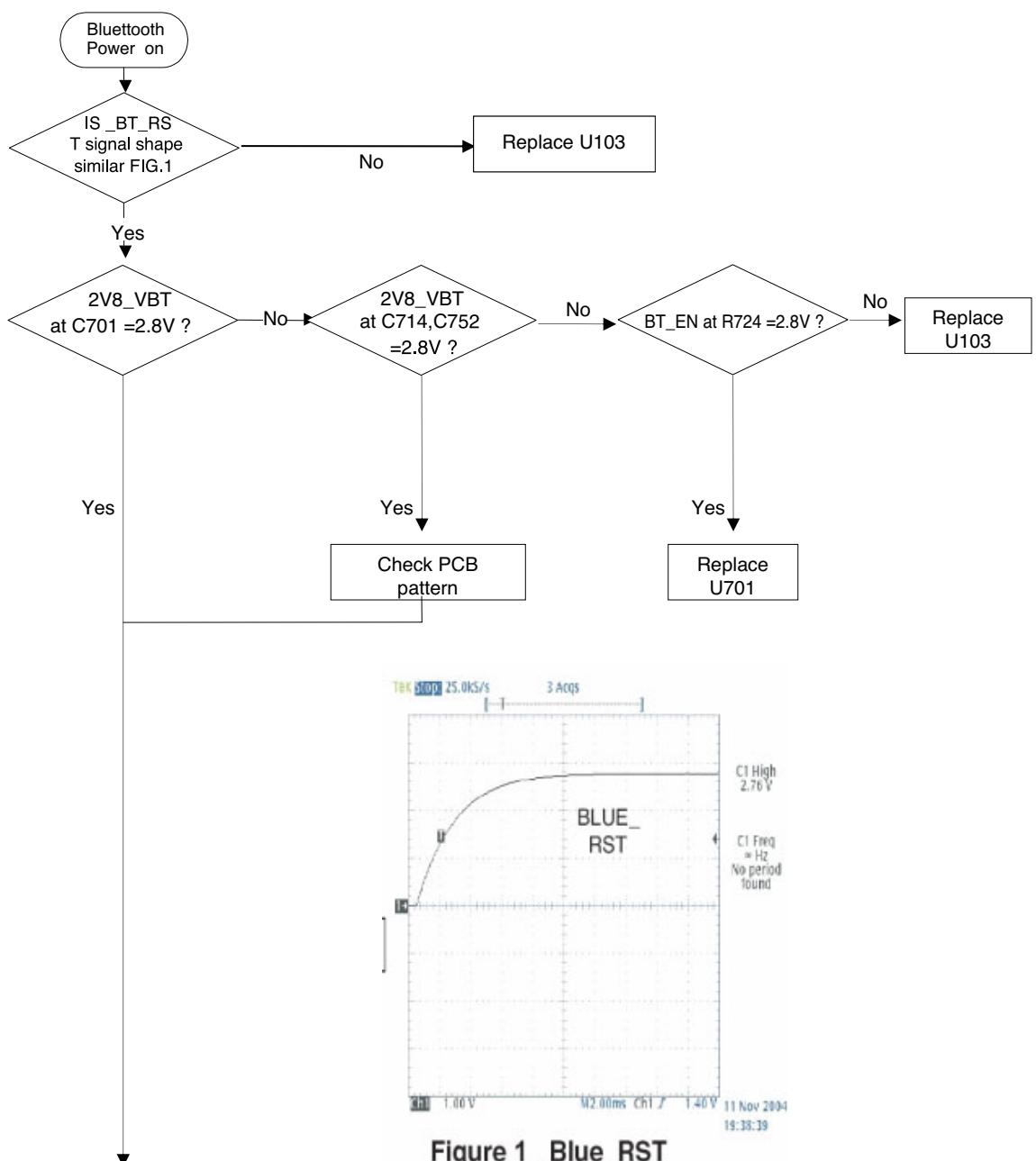


Figure 1_ Blue_RST

4. TROUBLE SHOOTING

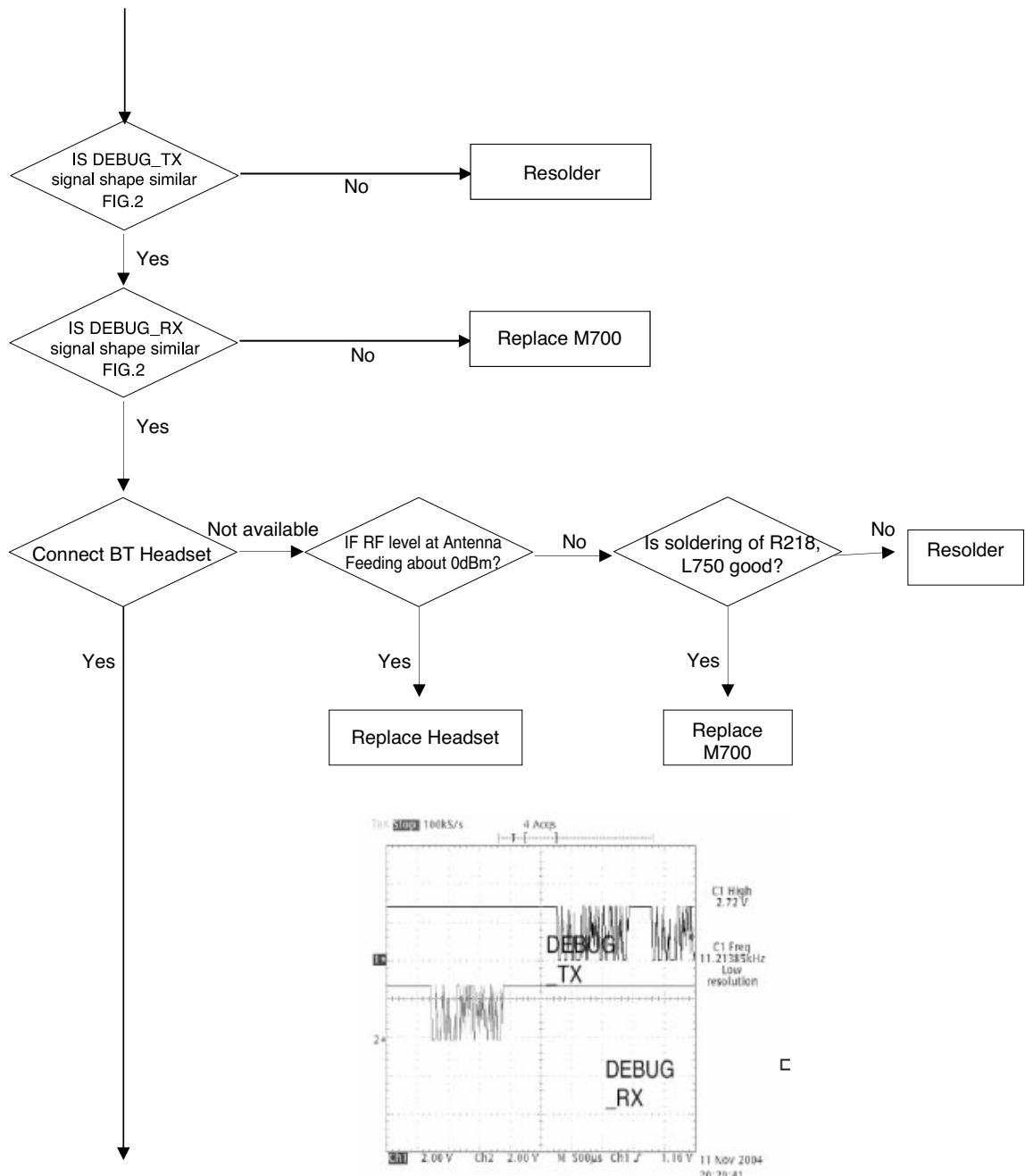


Figure 2_DEBUG_Tx, Rx

4. TROUBLE SHOOTING

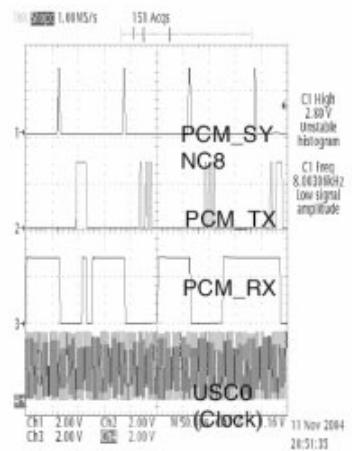
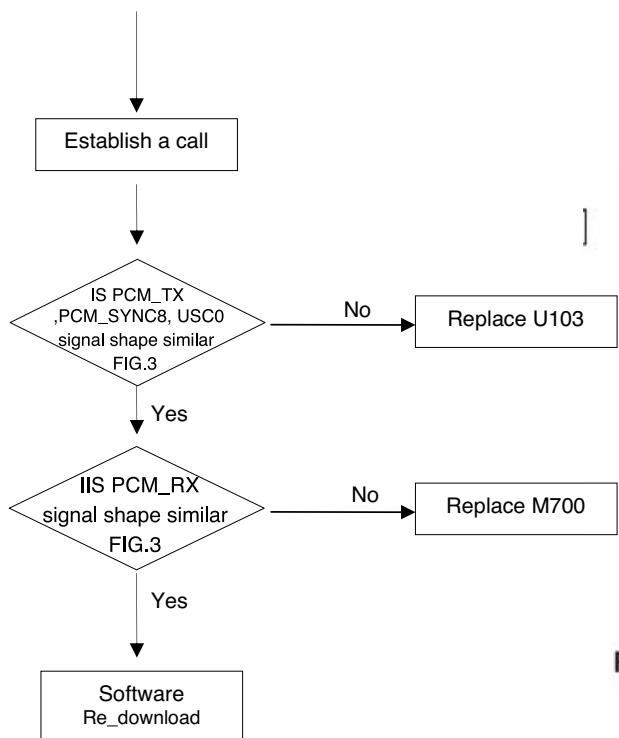
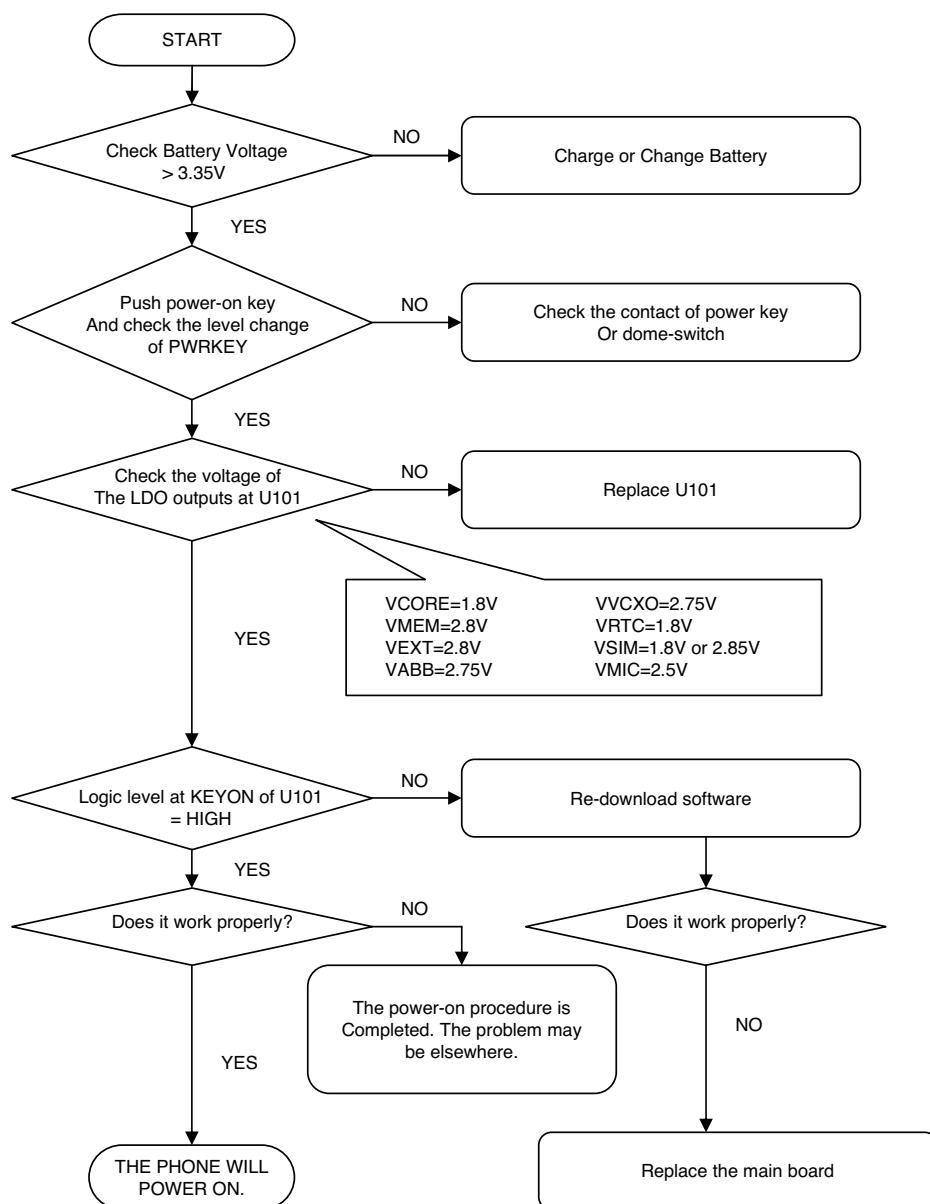


Figure 3 PCM_SYNC8, Tx, Rx, USCO

4. TROUBLE SHOOTING

Checking Flow



4.5 Charging Trouble

Test Points

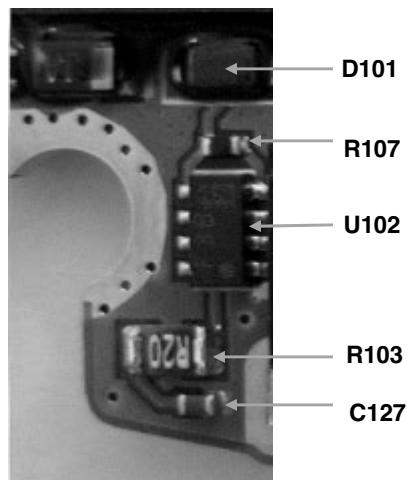
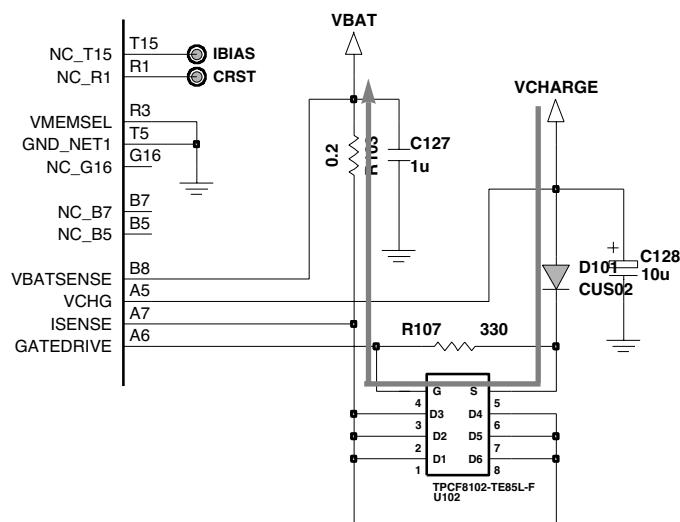


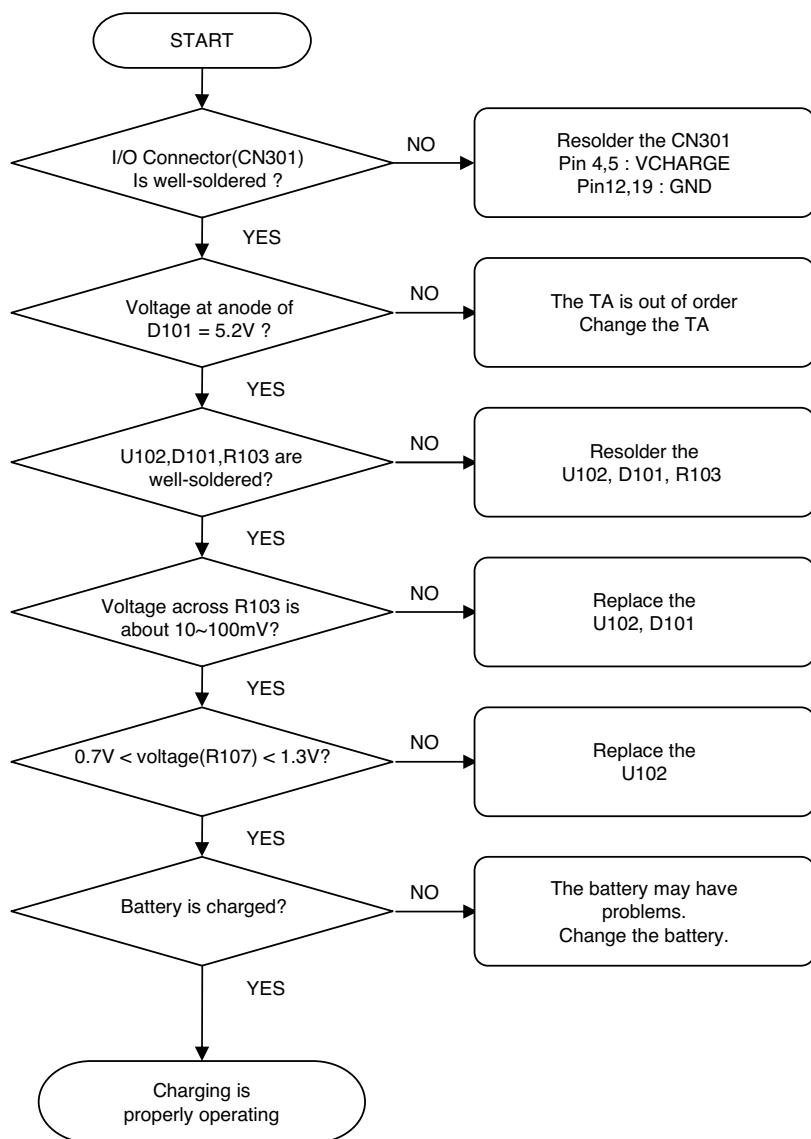
Figure 4-12

CIRCUIT



4. TROUBLE SHOOTING

Checking Flow



4.6 Vibrator Trouble

Test Points

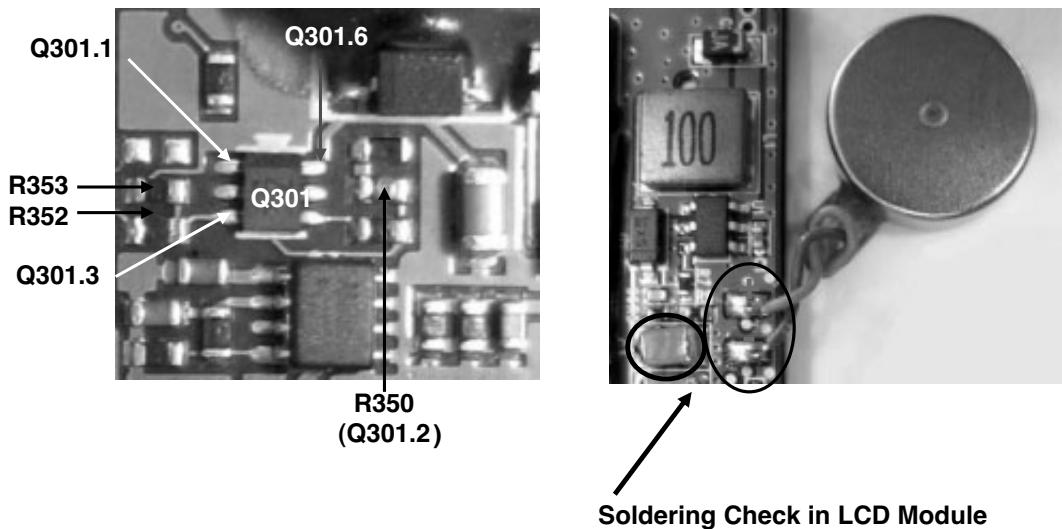
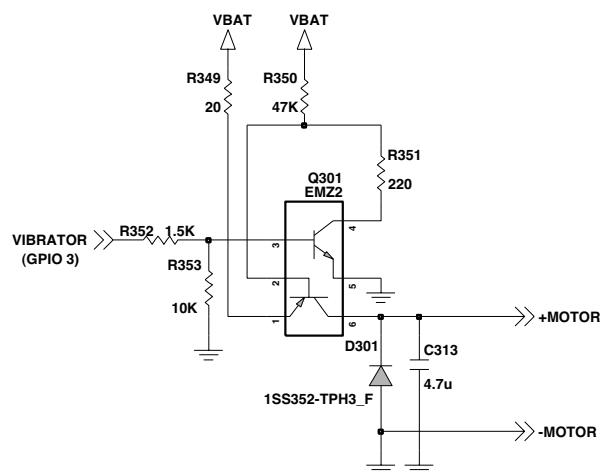


Figure 4-13

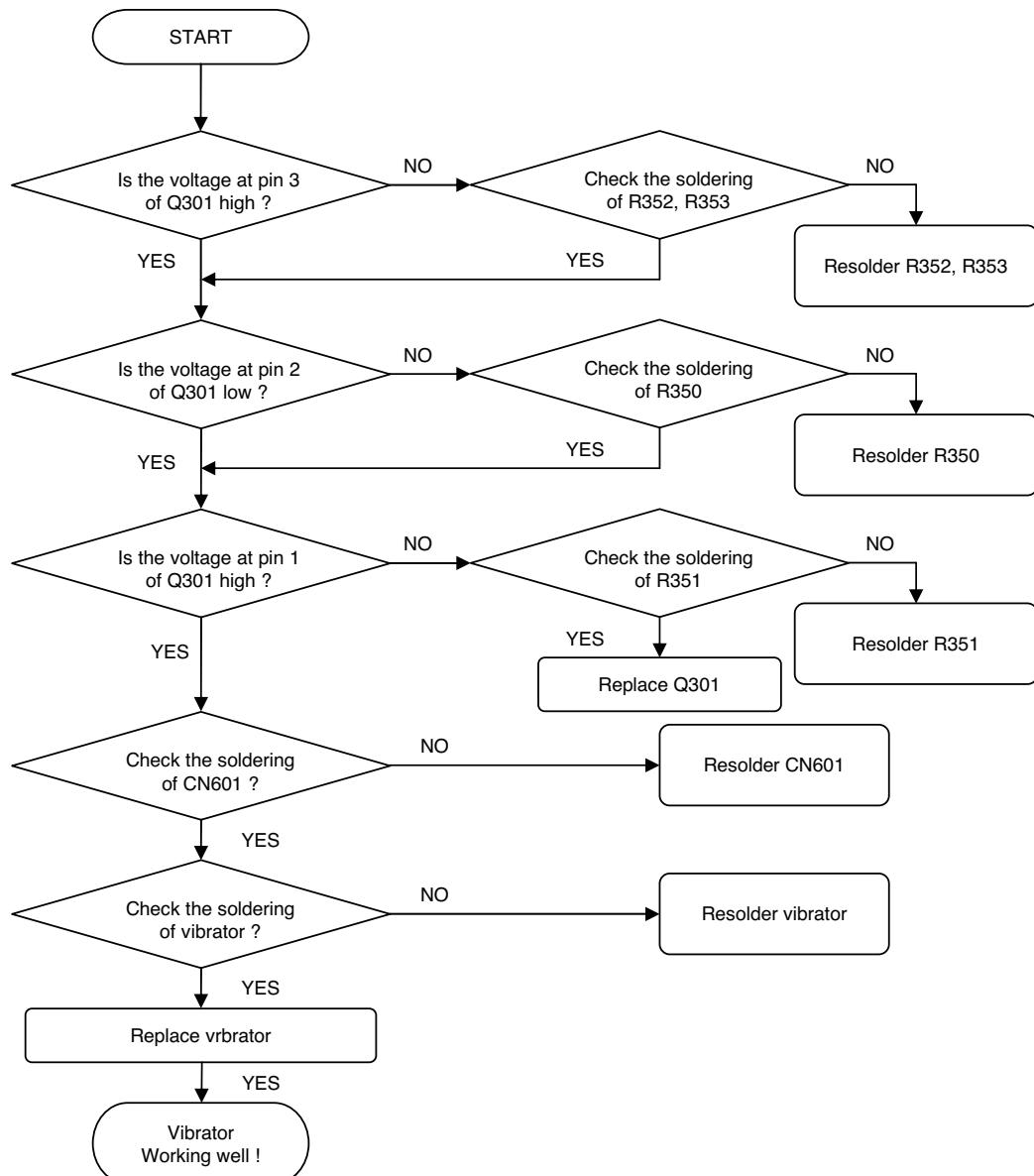
CIRCUIT



4. TROUBLE SHOOTING

Checking Flow

SETTING : Enter the engineering mode, and set vibrator on at vibration of BB test menu



4.7 LCD Trouble

Test Points

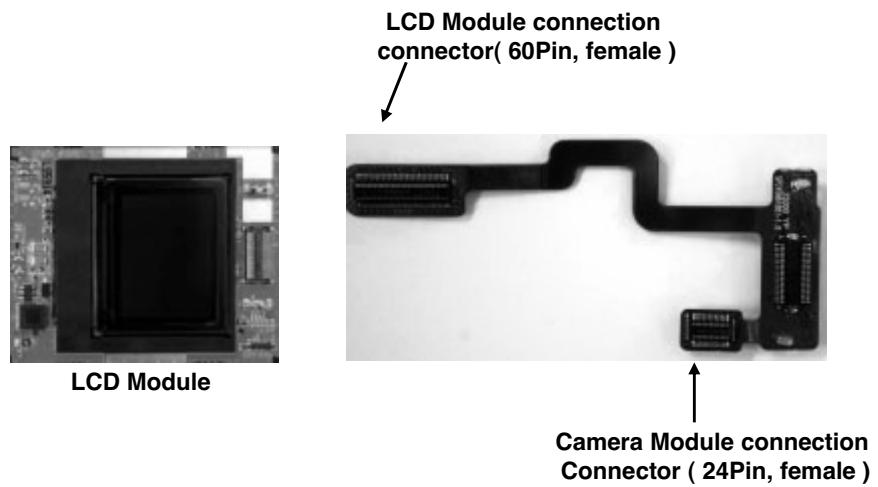
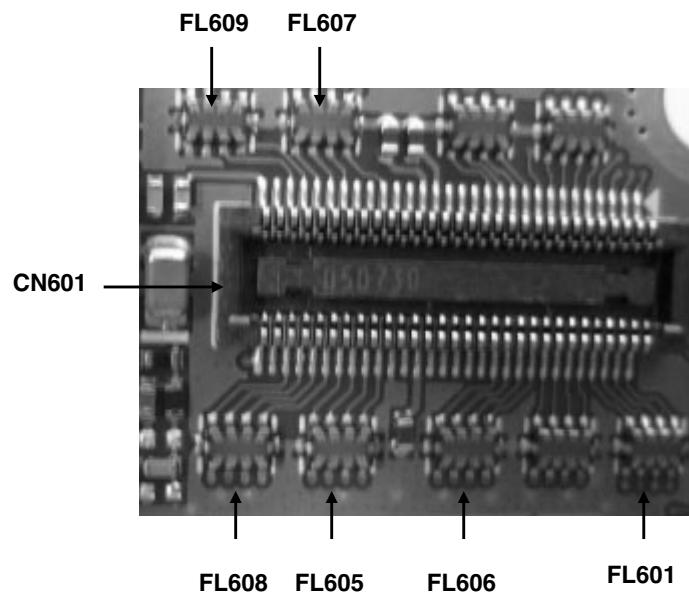
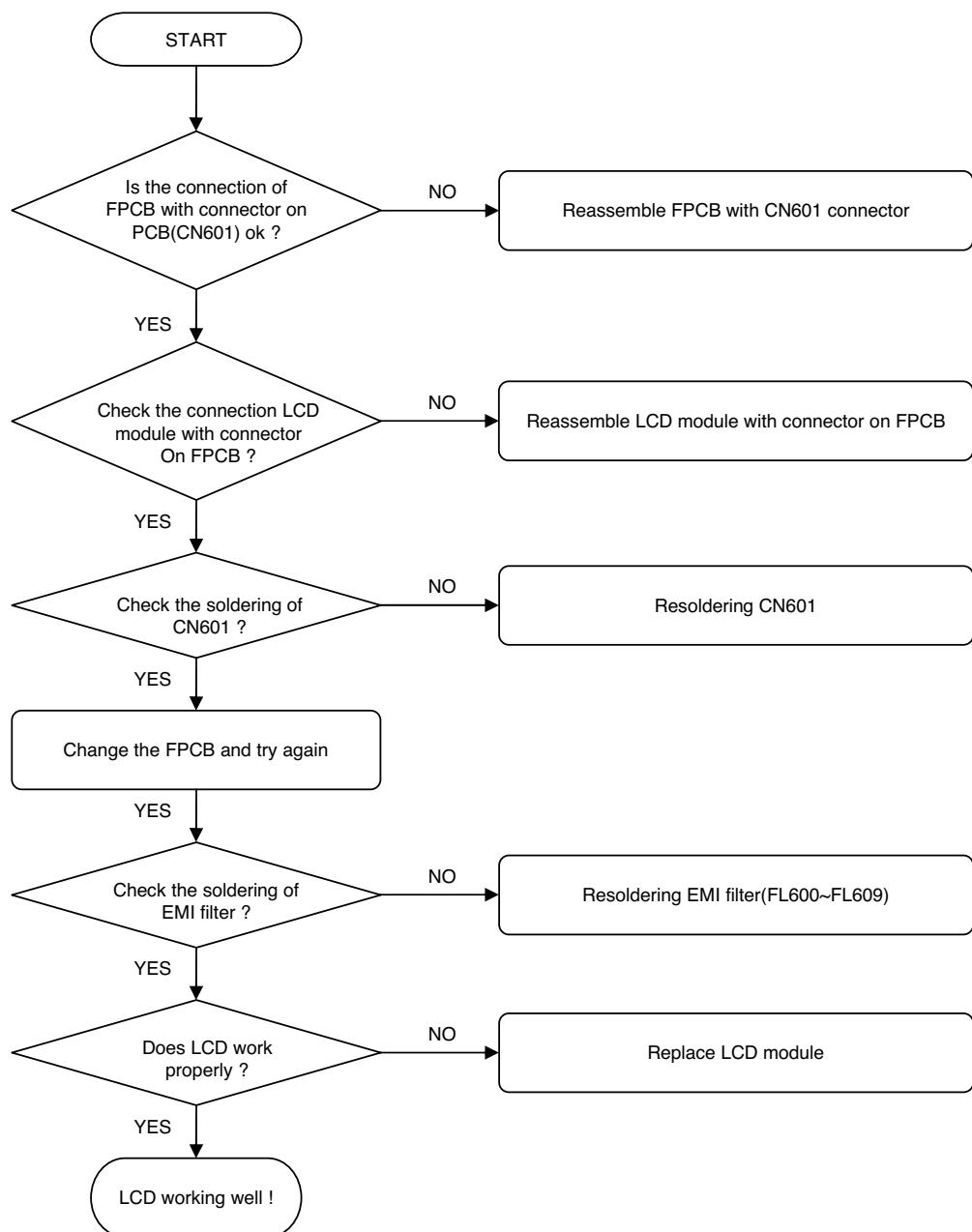


Figure 4-15

4. TROUBLE SHOOTING

Checking Flow



4.8 Camera Trouble

Test Points

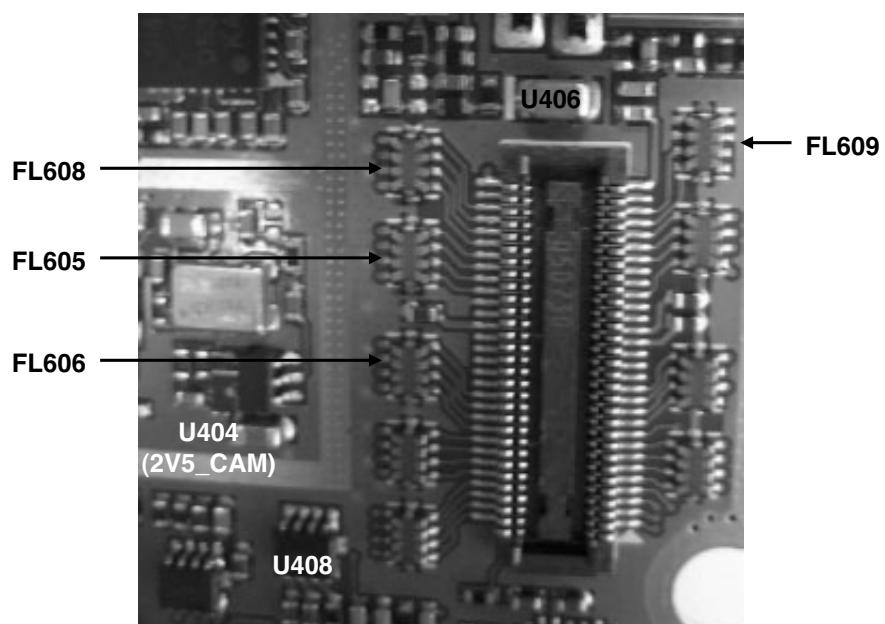


Figure 4-16

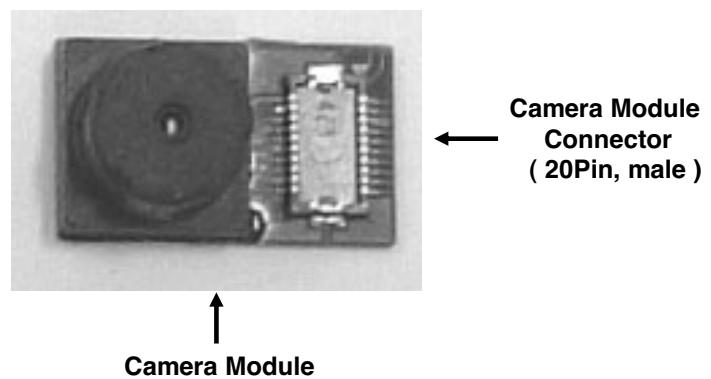
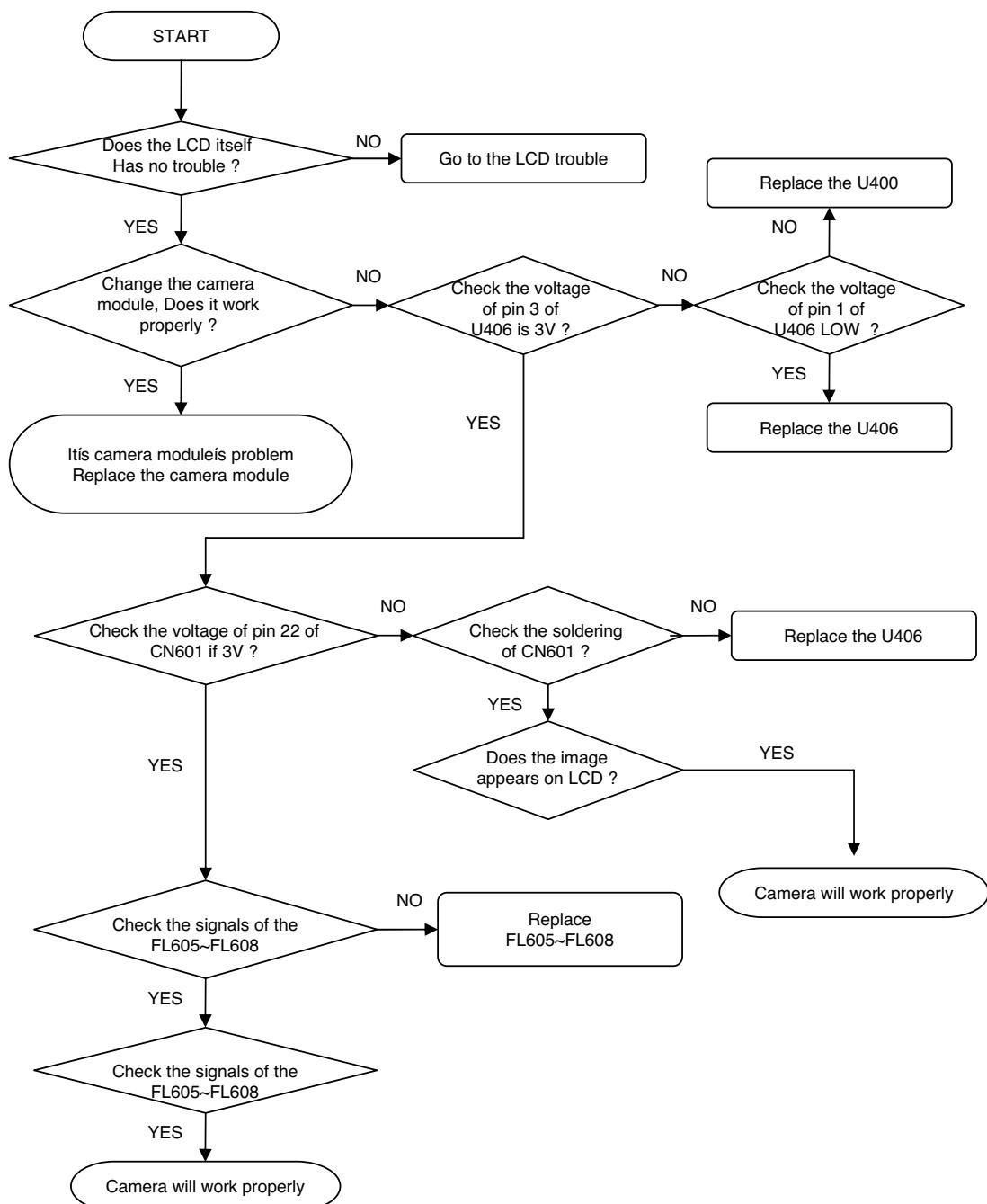


Figure 4-17

4. TROUBLE SHOOTING

Checking Flow



4.9 Speaker Trouble

Test Points

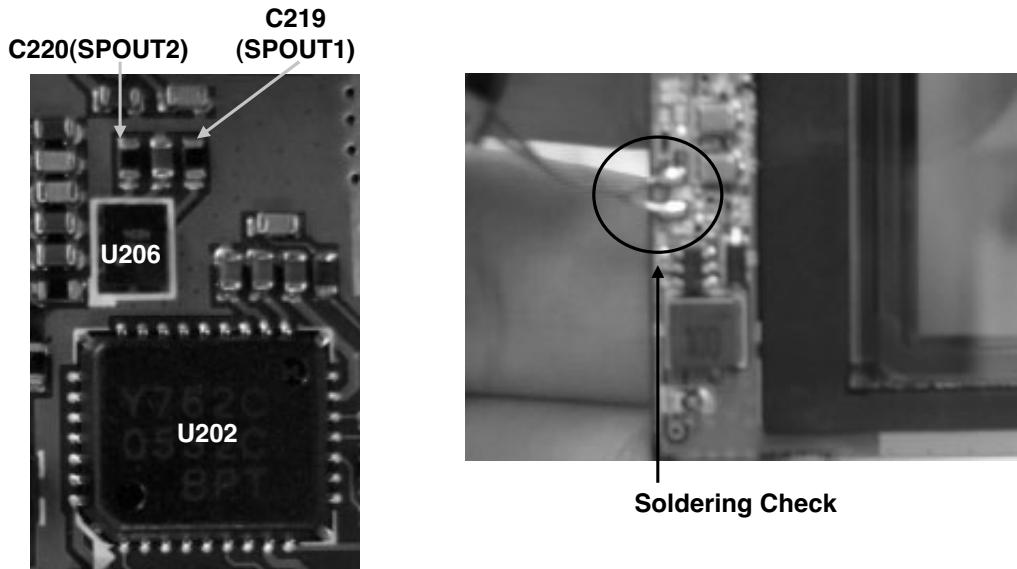
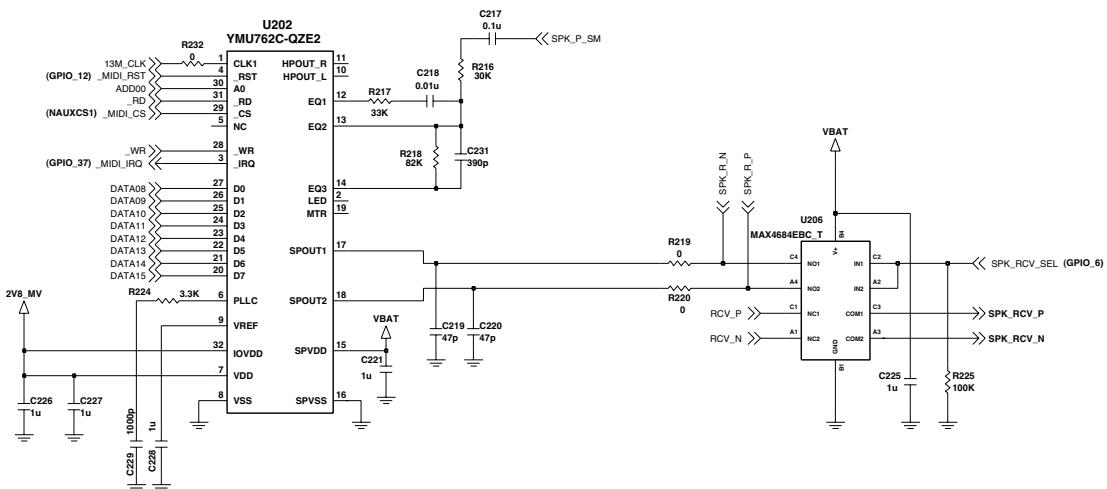


Figure 4-18

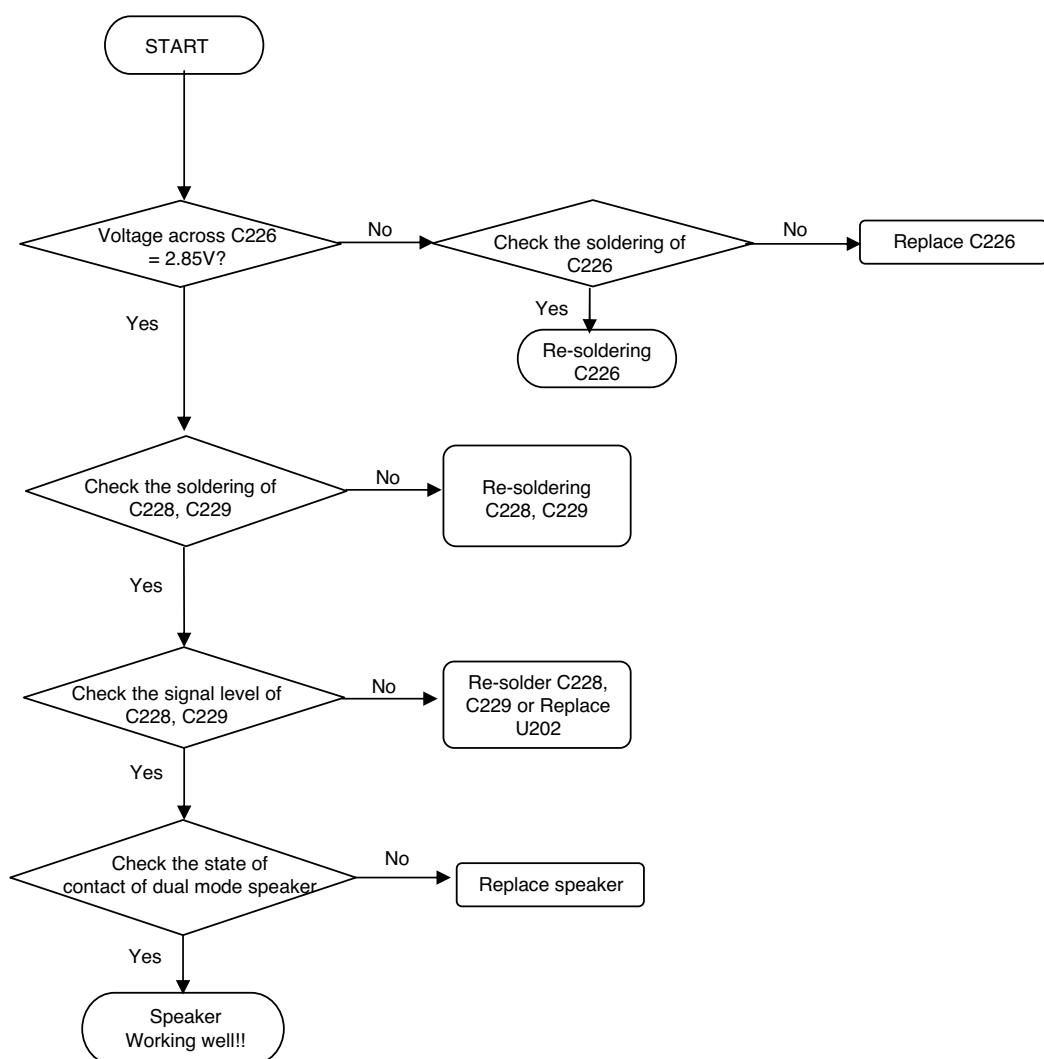
CIRCUIT

MIDI (40POLY)



4. TROUBLE SHOOTING

Checking Flow



4.10 SIM Card Interface Trouble

Test Points

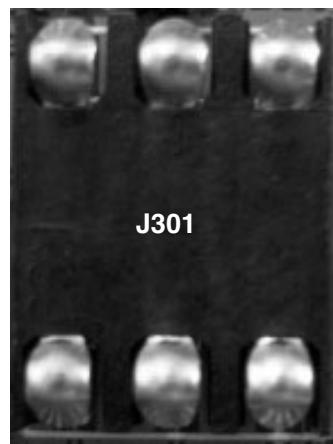
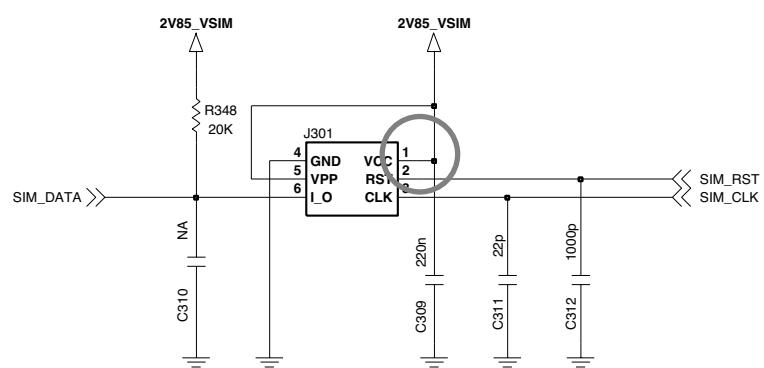


Figure 4-19

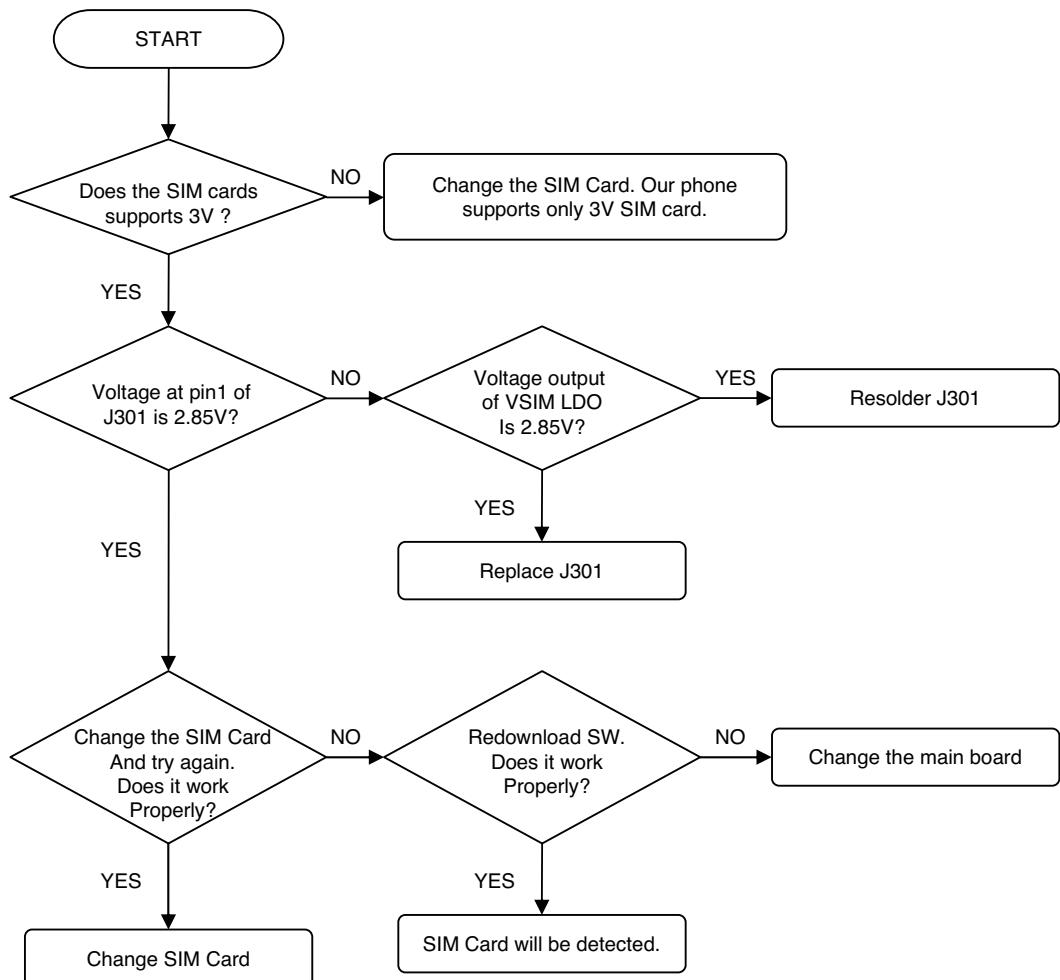
CIRCUIT

SIM CONNECTOR



4. TROUBLE SHOOTING

Checking Flow



4.11 Earphone Trouble

Test Points

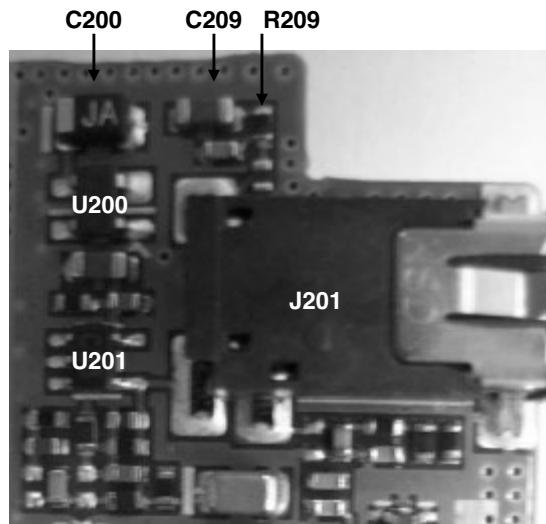
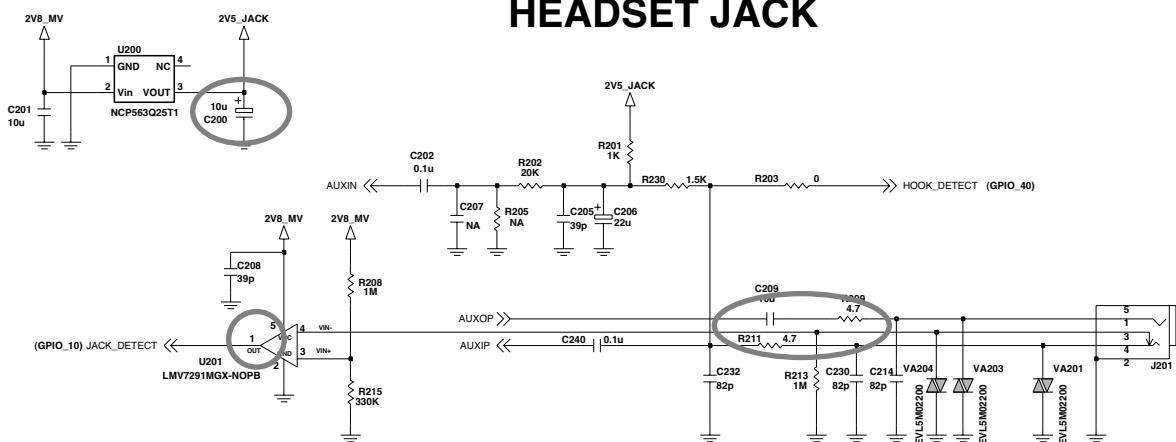


Figure 4-20

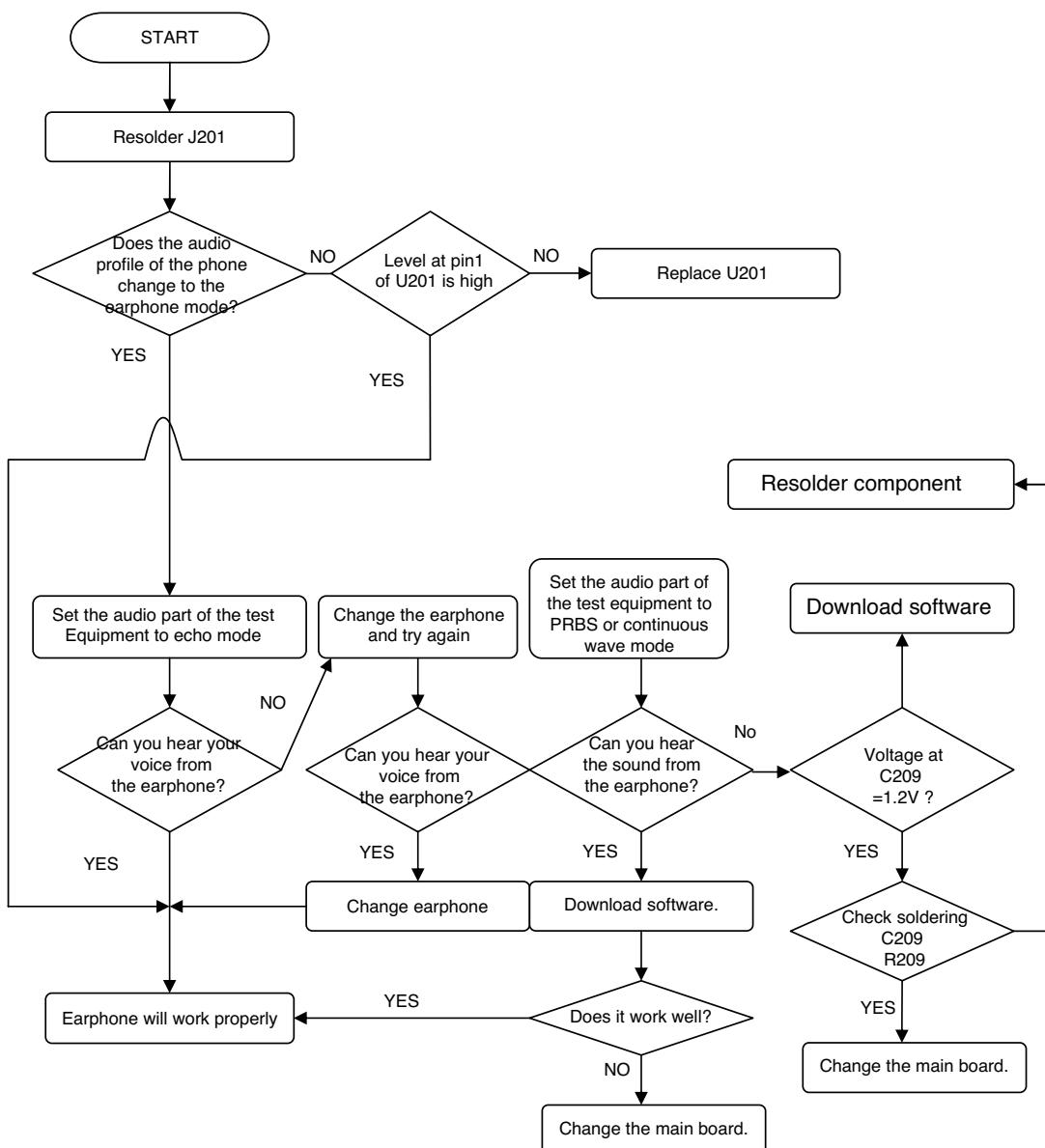
CIRCUIT

HEADSET JACK



4. TROUBLE SHOOTING

Checking Flow



4.12 KEY backlight Trouble

Test Points

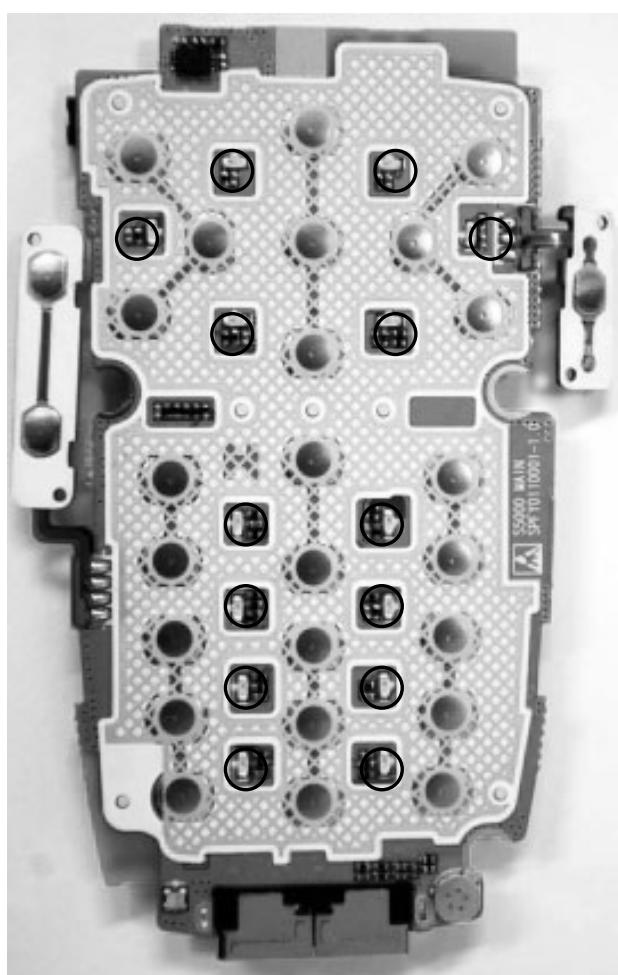
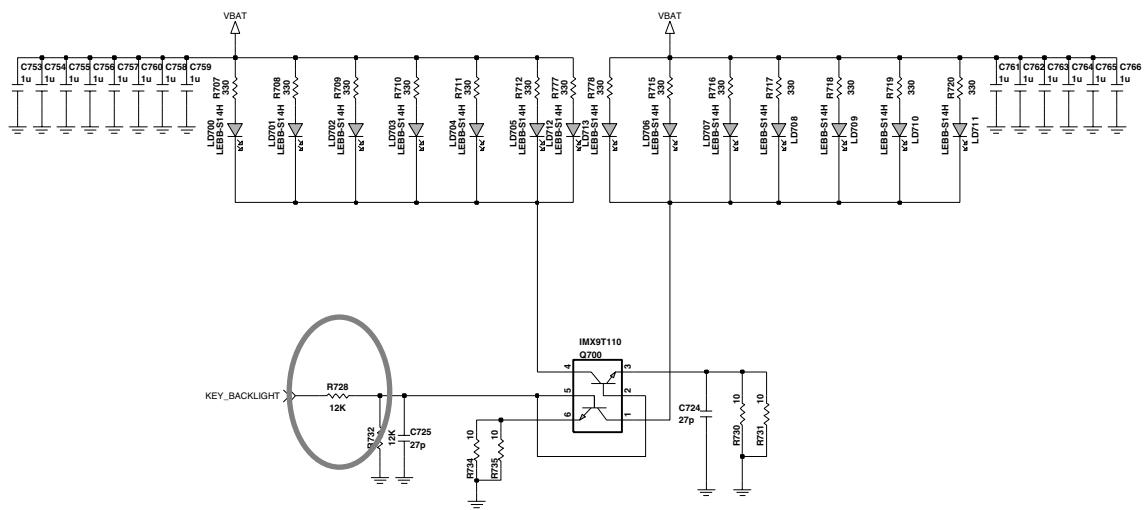


Figure 4-21

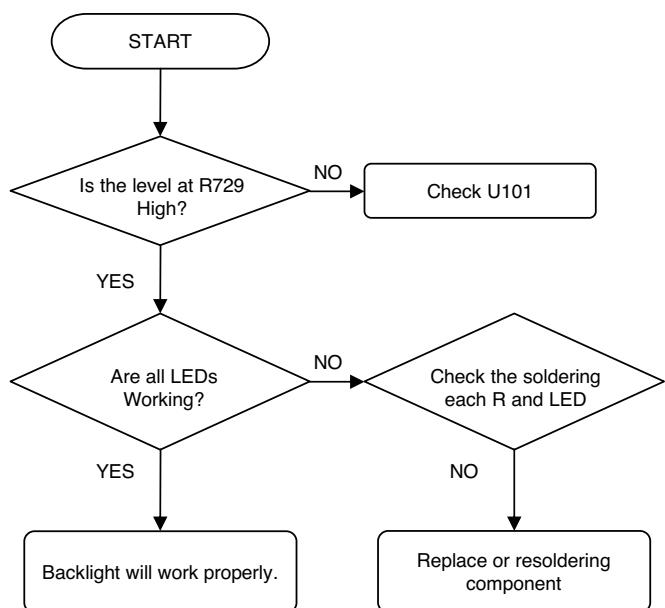
4. TROUBLE SHOOTING

CIRCUIT

KEY BACKLIGHT



Checking Flow



4.13 Receiver Trouble

Test Points

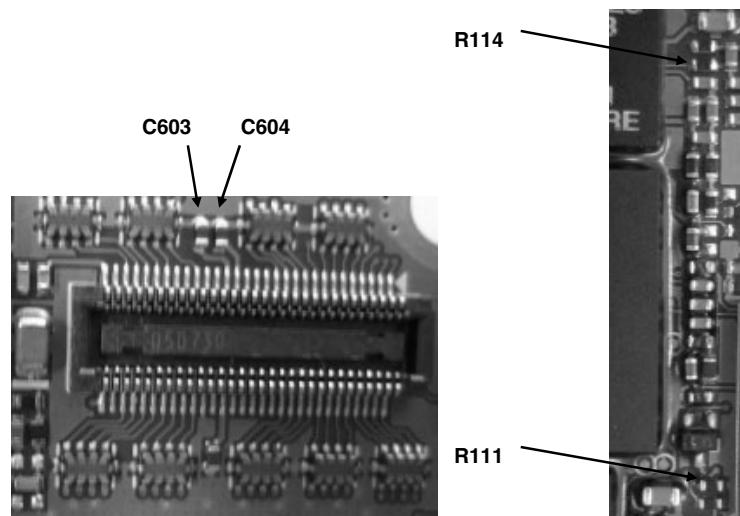
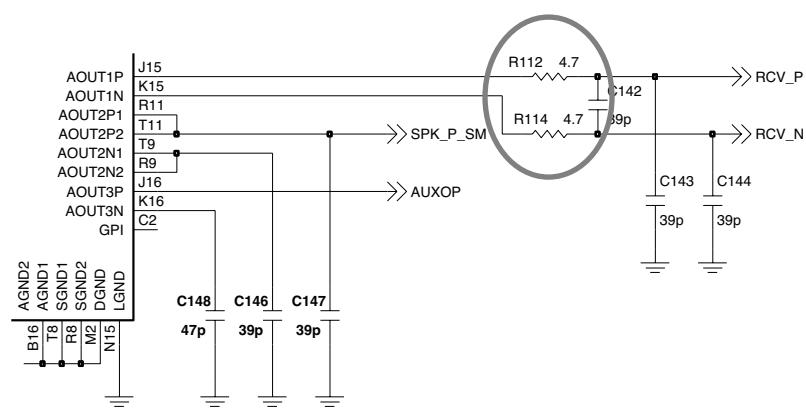


Figure 4-22

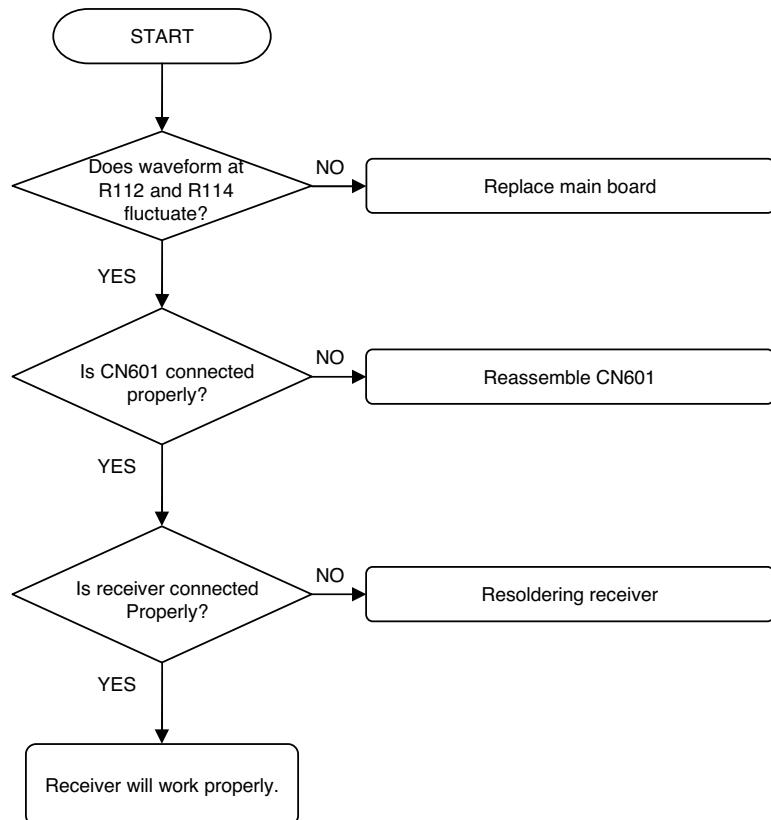
CIRCUIT



4. TROUBLE SHOOTING

Checking Flow

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode
Set the property of audio as PRBS or continuous wave. Set the receiving volume of mobile as Max.



4. TROUBLE SHOOTING

4.14 Microphone Trouble

Test Points

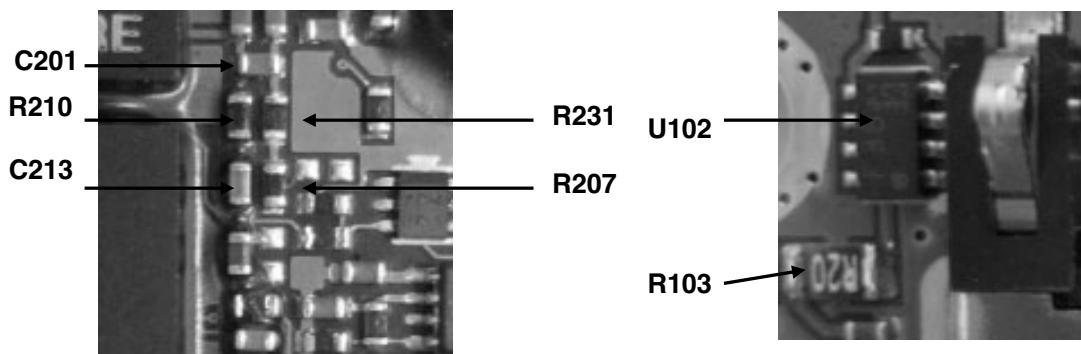
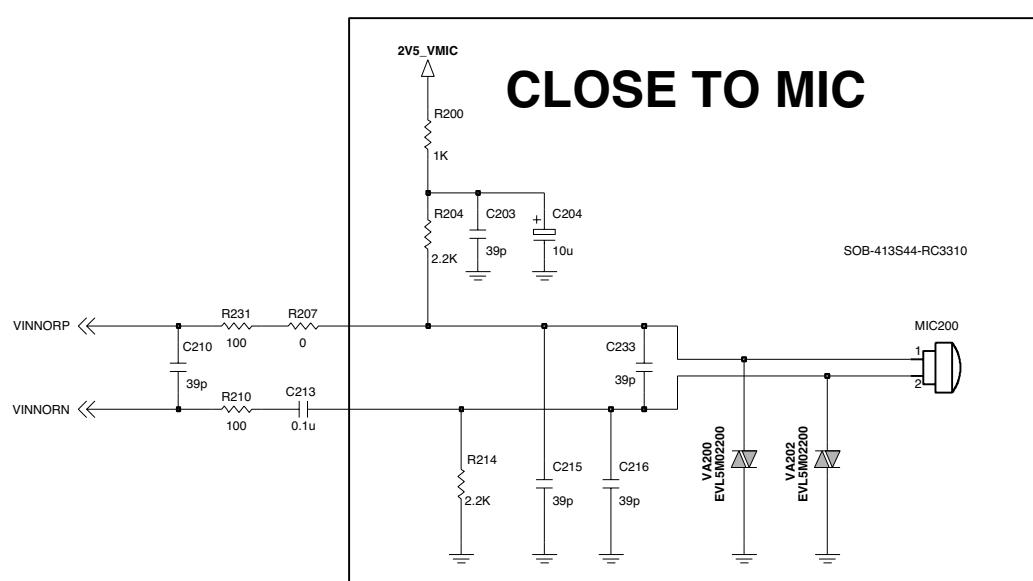


Figure 4-23

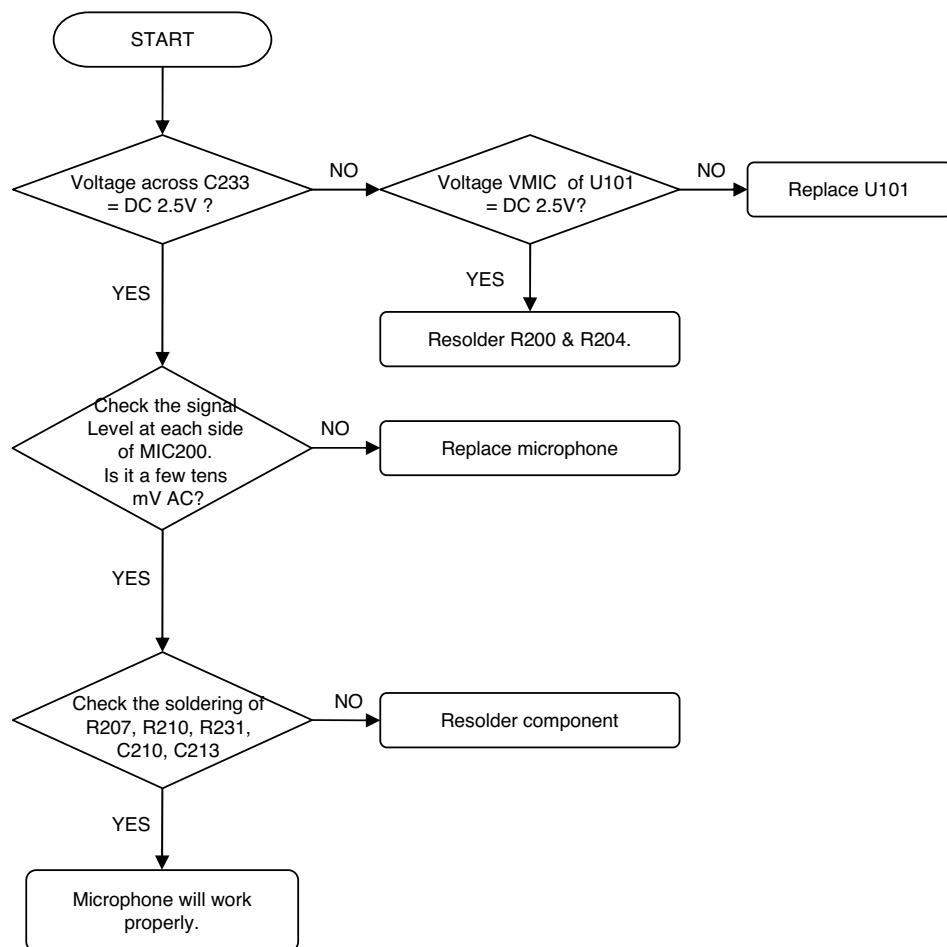
CIRCUIT



4. TROUBLE SHOOTING

Checking Flow

SETTING : After initialize Agilent 8960, Test EGSM, DCS mode



4.15 RTC Trouble

Test Points

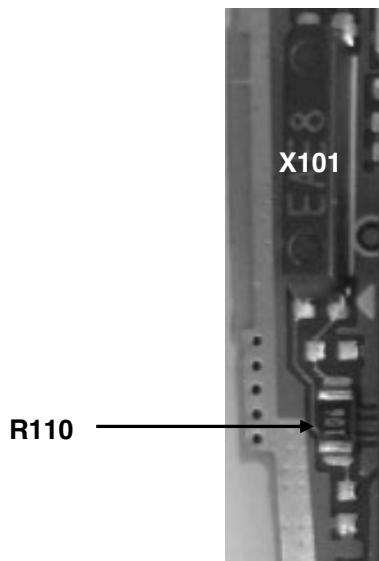
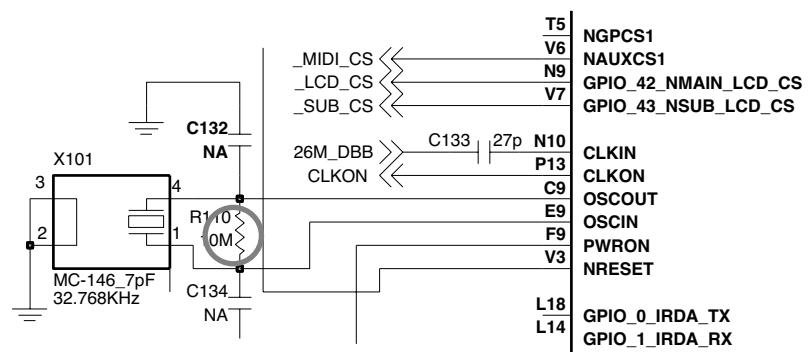


Figure 4-24

CIRCUIT



4. TROUBLE SHOOTING

4.16 Indication LED Trouble

Test Points

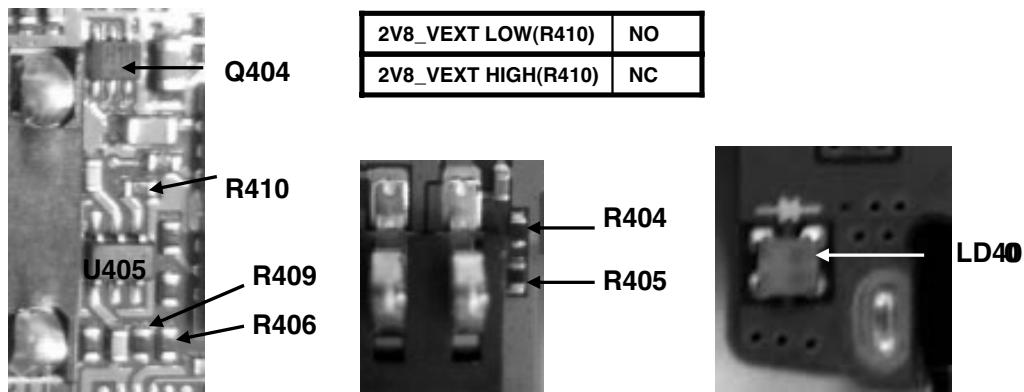
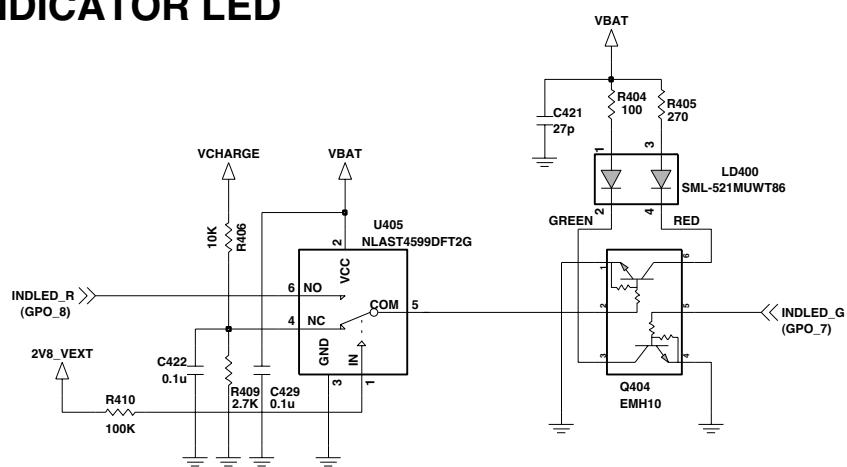


Figure 4-25

CIRCUIT

INDICATOR LED



4.17 Folder on/off Trouble

Test Points

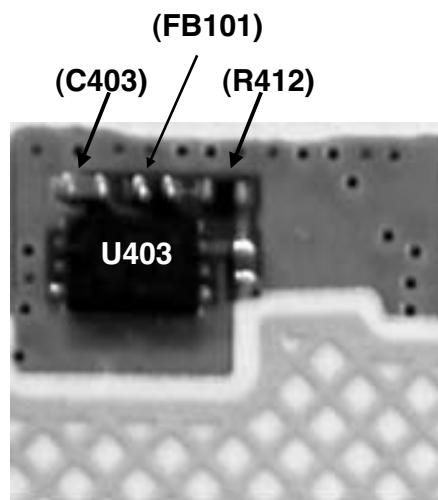
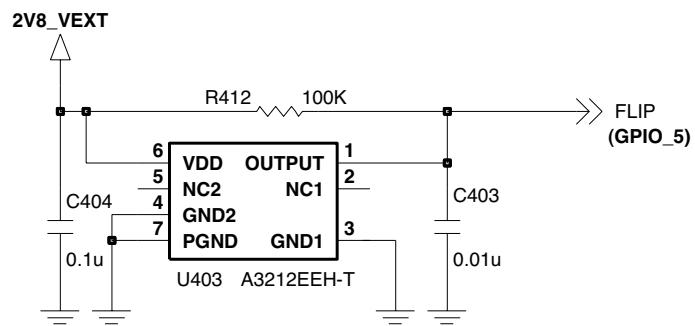


Figure 4-26

CIRCUIT

FLIP SWITCH



5. DOWNLOAD AND CALIBRATION

5. DOWNLOAD AND CALIBRATION

5.1 Download

A. Download Setup

Figure 5-1 describes Download setup

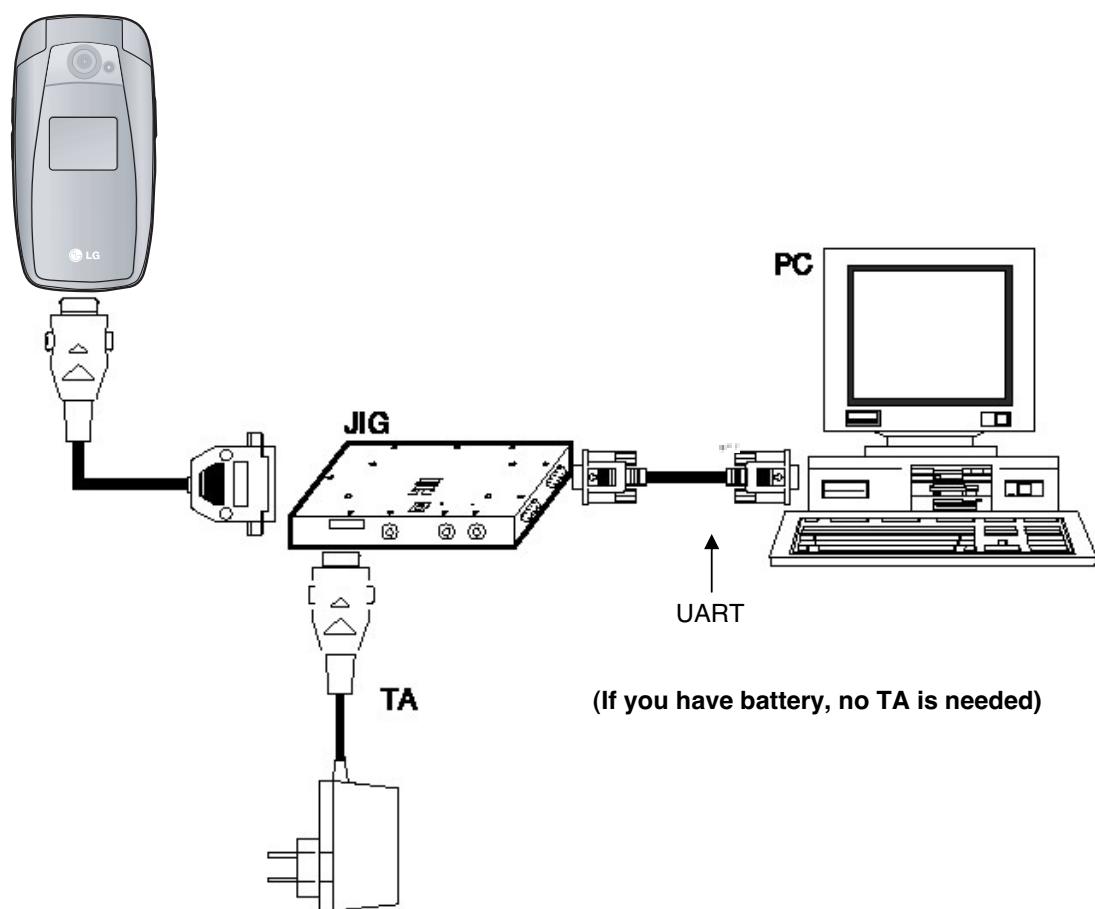
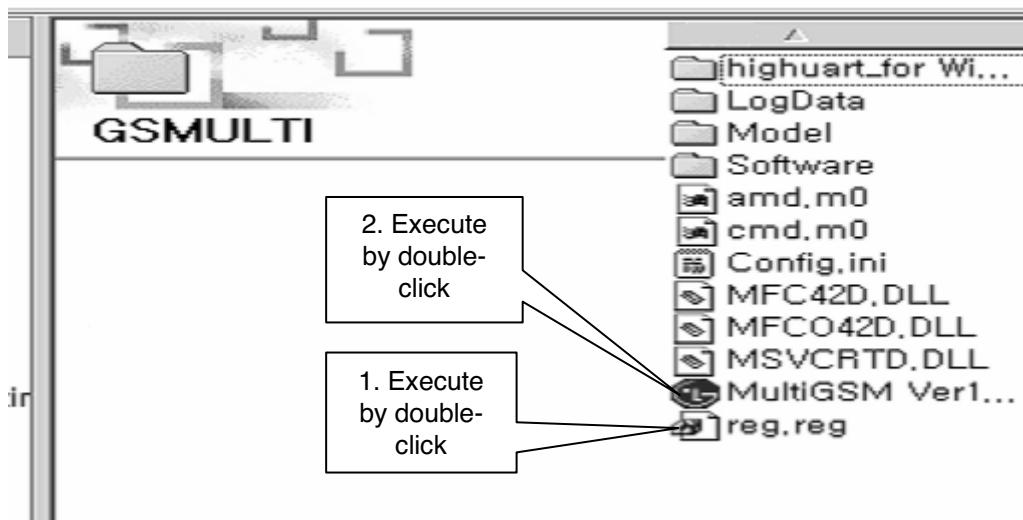


Figure 5-1. Download Setup

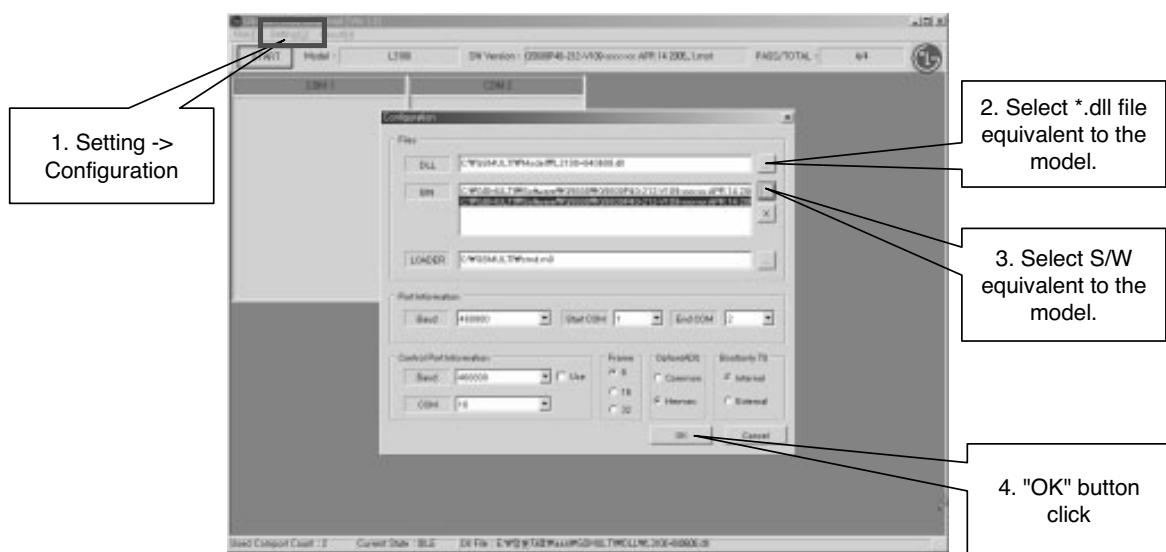
5. DOWNLOAD AND CALIBRATION

B. Download Procedure

1. Create a new folder on C: Drive as below after downloading GSMULTI program on GCSC.

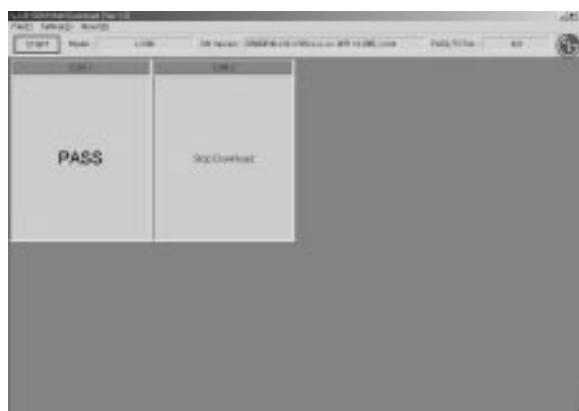
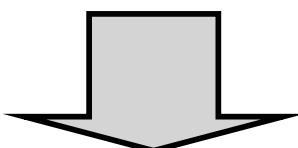
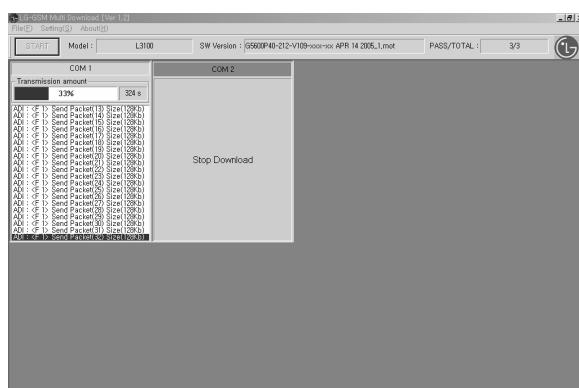
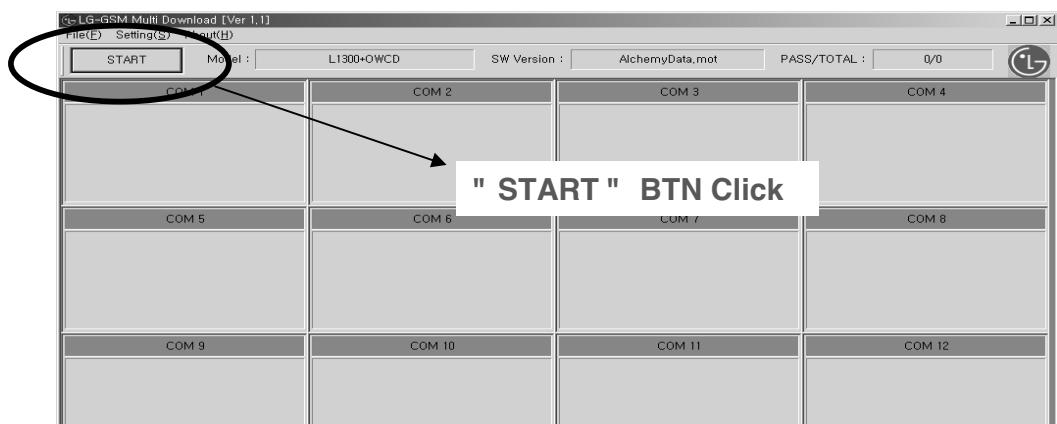


2. Execution and Configuration Setting



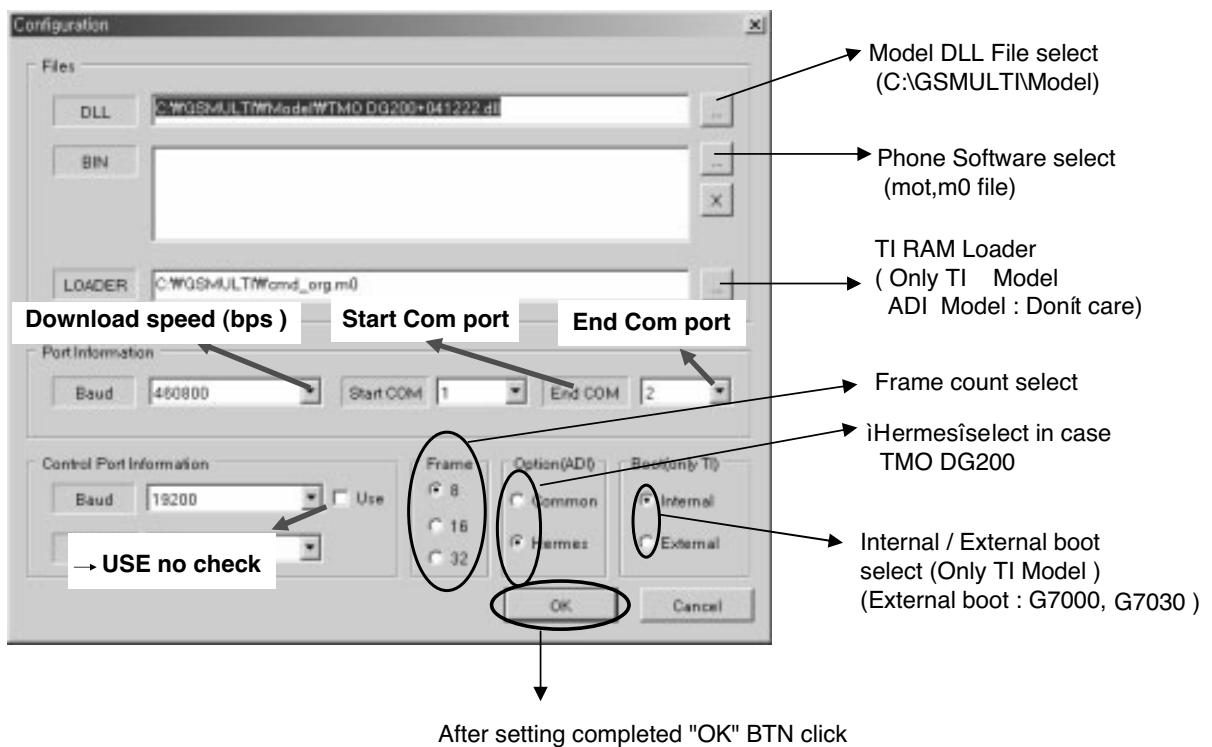
5. DOWNLOAD AND CALIBRATION

3. Click 'Start' button and then connect the phone and the cable.



5. DOWNLOAD AND CALIBRATION

C. Configuration Setting Information



5. DOWNLOAD AND CALIBRATION

5.2 Calibration

A. Equipment List

Table 5-1. Calibration Equipment List.

Equipment for Calibration	Type / Model	Brand
Wireless Communication Test Set	HP-8960	Agilent
RS-232 Cable and Test JIG		LG
RF Cable		LG
Power Supply	HP-66311B	Agilent
GPIO interface card	HP-GPIB	Agilent
Calibration & Final test software		LG
Test SIM Card		
PC (for Software Installation)	Pentium II class above 300MHz	

B. Equipment Setup

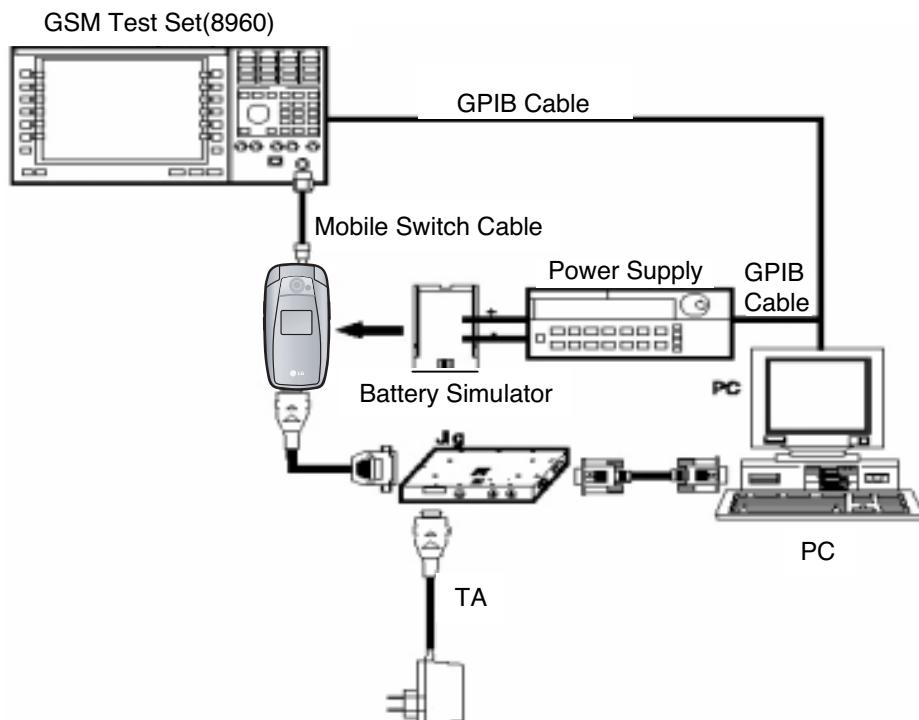


Figure 5-2. Equipment Setup

5. DOWNLOAD AND CALIBRATION

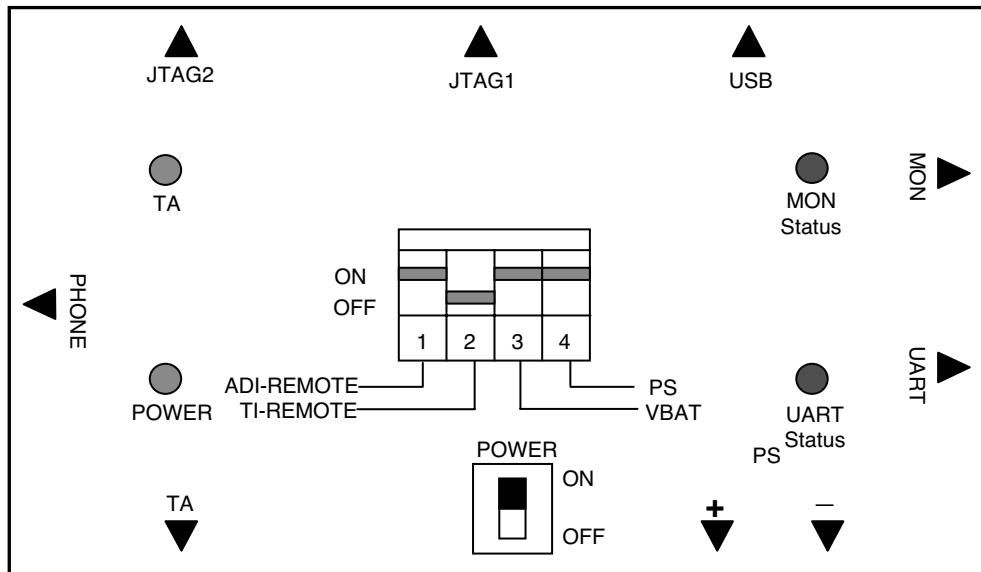


Figure 5-3 The top view of Test JIG

C. Test Jig Operation

Table 5-2 Jig Power

Power Source	Description
Power Supply	usually 4.0V
Travel Adaptor	Use TA, name is TA-20G(24pin)

Table 5-3 Jig DIP Switch

Switch Number	Name	Description
Switch 1	ADI-REMOTE	In ON state, phone is awaked. It is used ADI chipset.
Switch 2	TI-REMOTE	In ON state, phone is awaked. It is used TI chipset.
Switch 3	VBAT	Power is provided for phone from battery
Switch 4	PS	Power is provided for phone from Power supply

5. DOWNLOAD AND CALIBRATION

Table 5-4 LED Description

LED Number	Name	Description
LED 1	Power	Power is provided for Test Jig
LED 2	TA	Indicate charging state of the phone battery
LED 3	UART	Indicate data transfer state through the UART port
LED 4	MON	Indicate data transfer state through the MON port

1. Connect as Fig 6-2(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Set the Power Supply 4.0V
3. Set the 3rd, 4th of DIP SW ON state always
4. Press the Phone power key, if the Remote ON is used, 1st ON state

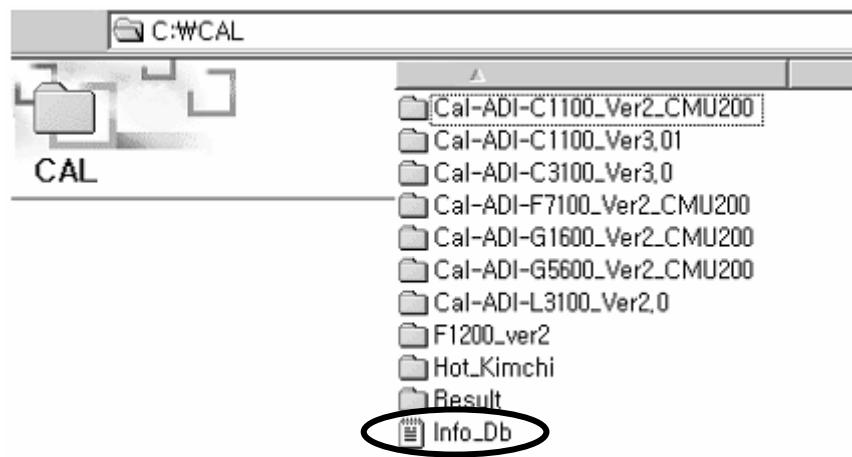
D. Procedure

1. Connect as Fig 6-2(RS232 serial cable is connected between COM port of PC and MON port of TEST JIG, in general)
2. Power ON PC then enter into Windows 98(Remark : Windows 2000 system could be feasible)
3. Run AUTOCAL.exe, the AUTOCAL application window will be appeared.

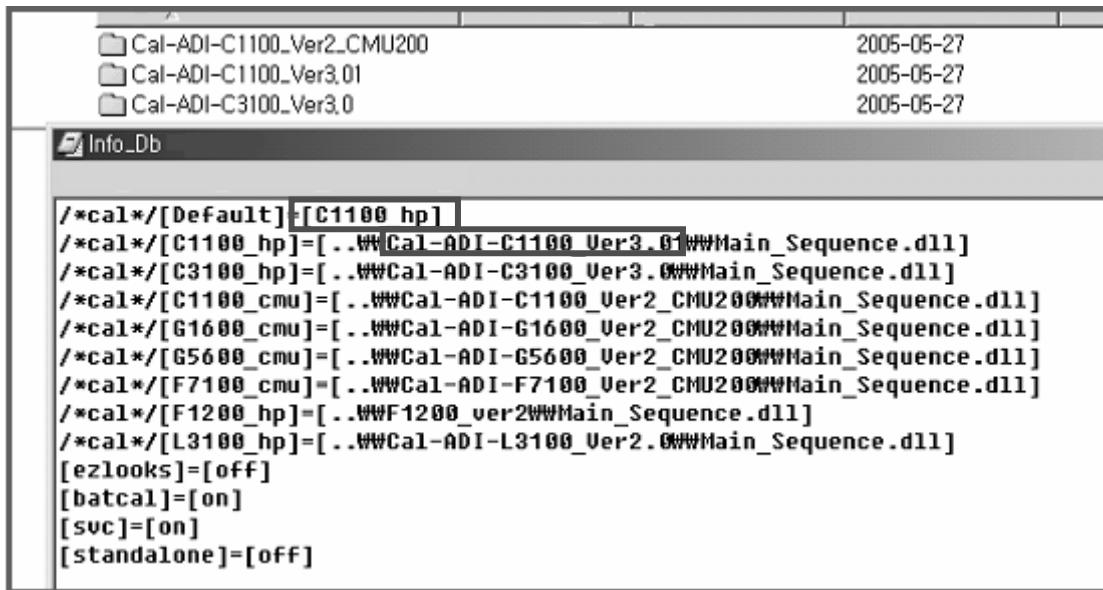
5. DOWNLOAD AND CALIBRATION

E. Download Procedure

1. Create a new folder as below after downloading 'Hotkimchi' program on GCSC.
2. Set up the "C:/CAL/Hot_Kimchi"
3. 'Info_DB' file and Configuration setting
Ex) Model : C1100



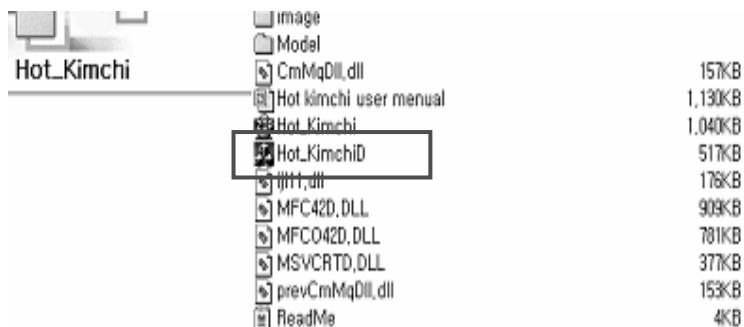
5. DOWNLOAD AND CALIBRATION



```
/*cal*/[Default]=[C1100_hp]
/*cal*/[C1100_hp]=[..\\Cal-ADI-C1100_Ver3.01\\Main_Sequence.dll]
/*cal*/[C3100_hp]=[..\\Cal-ADI-C3100_Ver3.0\\Main_Sequence.dll]
/*cal*/[C1100_cmu]=[..\\Cal-ADI-C1100_Ver2_CMU200\\Main_Sequence.dll]
/*cal*/[G1600_cmu]=[..\\Cal-ADI-G1600_Ver2_CMU200\\Main_Sequence.dll]
/*cal*/[G5600_cmu]=[..\\Cal-ADI-G5600_Ver2_CMU200\\Main_Sequence.dll]
/*cal*/[F7100_cmu]=[..\\Cal-ADI-F7100_Ver2_CMU200\\Main_Sequence.dll]
/*cal*/[F1200_hp]=[..\\F1200_ver2\\Main_Sequence.dll]
/*cal*/[L3100_hp]=[..\\Cal-ADI-L3100_Ver2.0\\Main_Sequence.dll]
[ezlooks]=[off]
[batcal]=[on]
[svc]=[on]
[standalone]=[off]
```

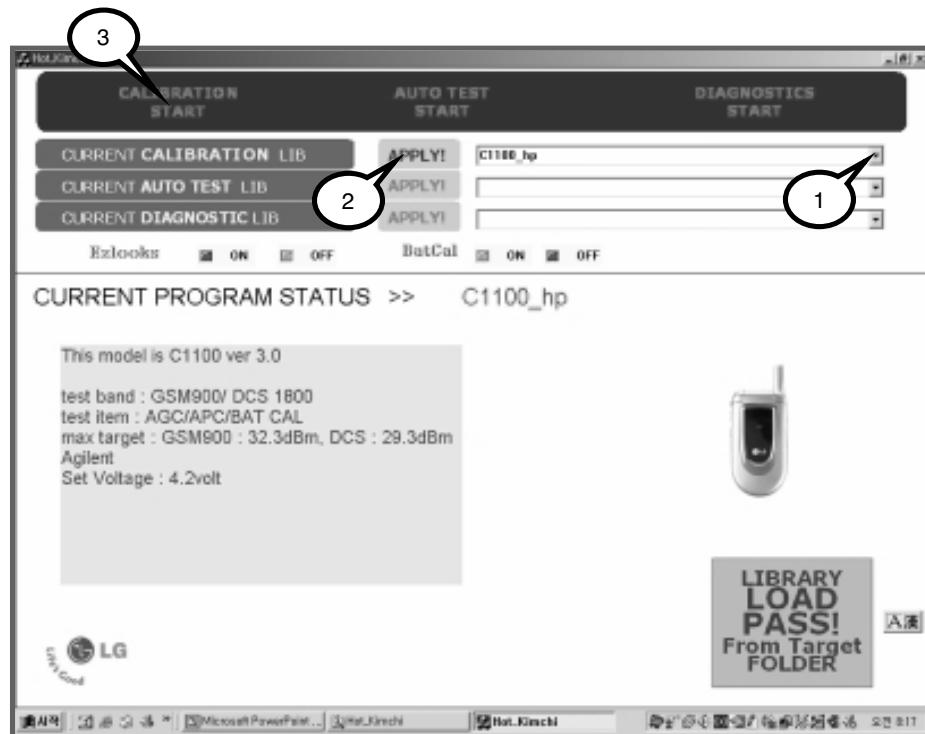
- To set up Data route, info_Db.TXT should be edited.
- The names in the cycle should be same.

4. Run file name is "Hot_kinchiD.exe"

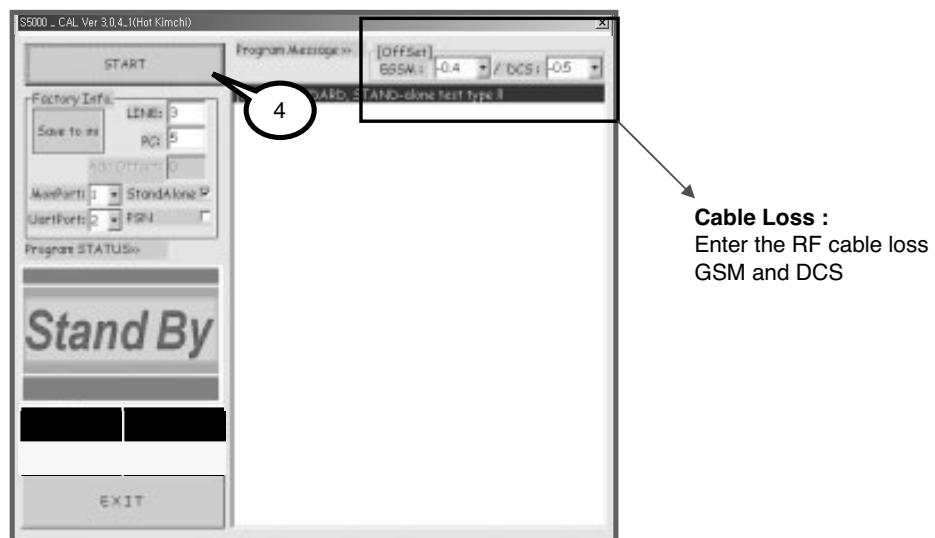


5. Choose the Model name of mobile phone.
6. Push the "APPLY" button. and push the "CALIBRATION START" button.
7. Push the "CALIBRATION START" button.

5. DOWNLOAD AND CALIBRATION

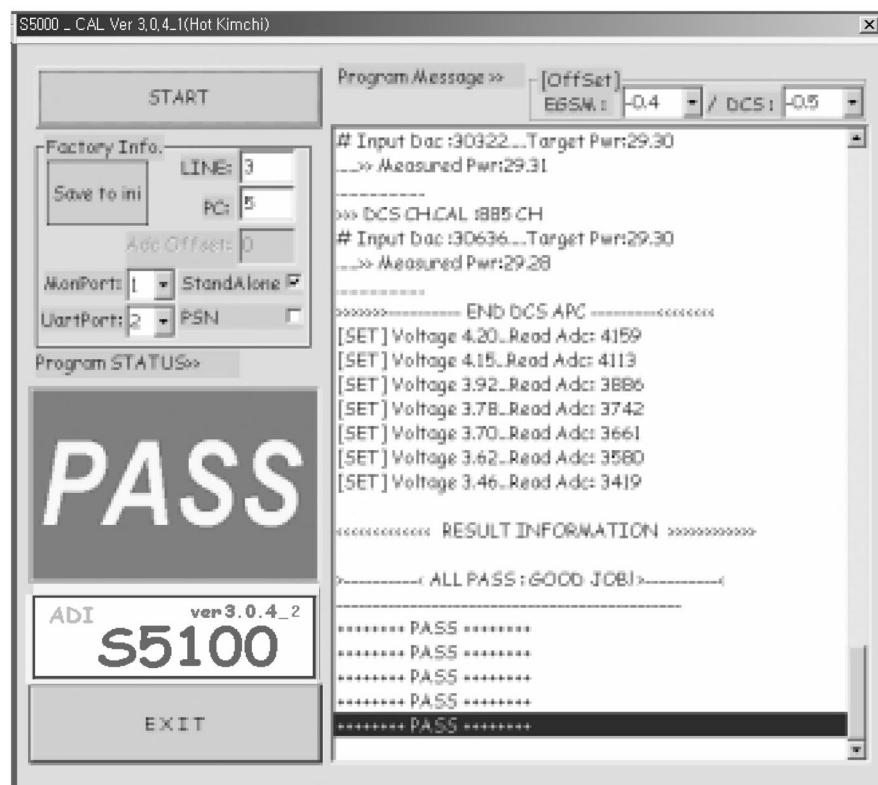


8. Push the “START” button.

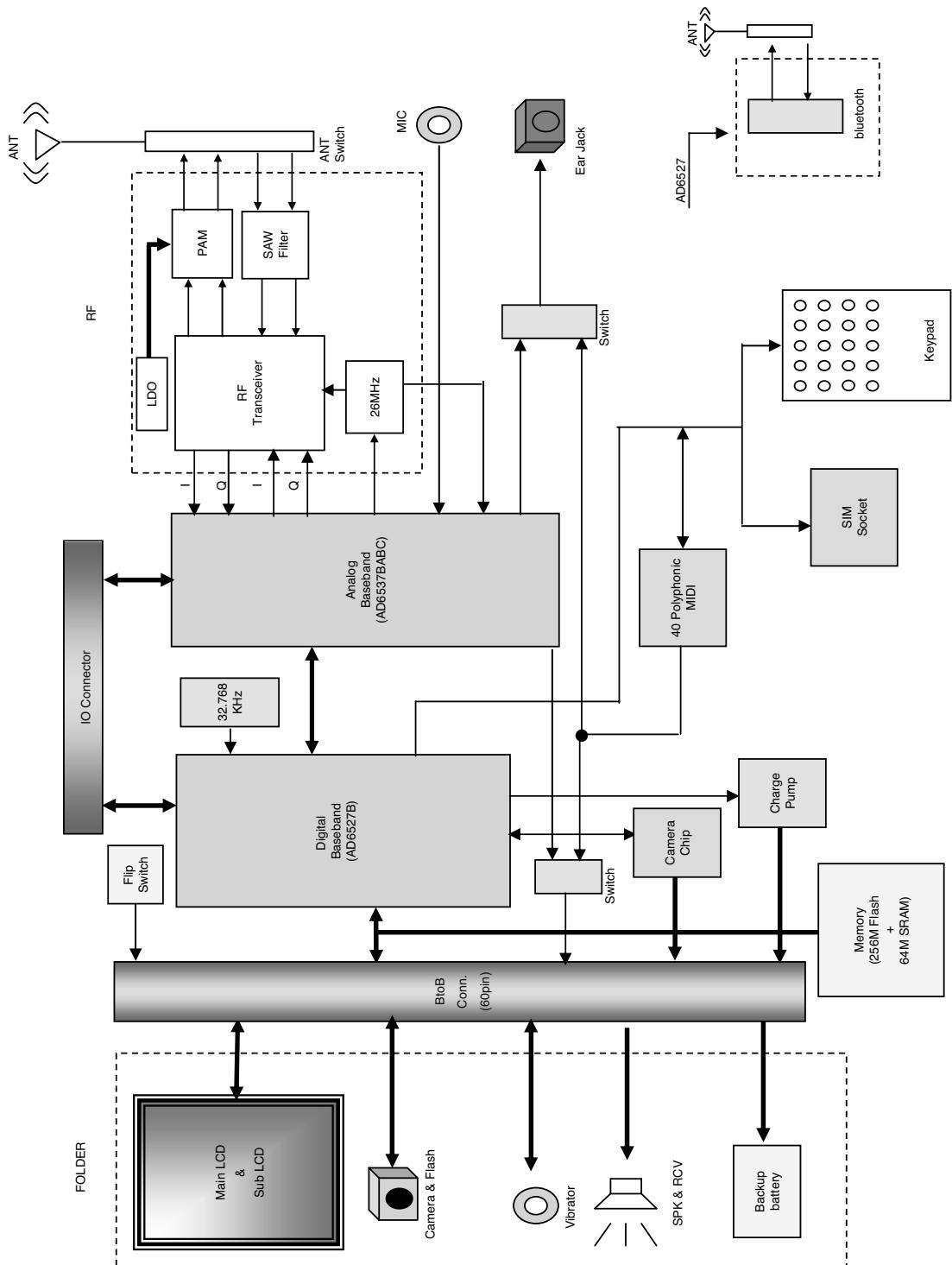


5. DOWNLOAD AND CALIBRATION

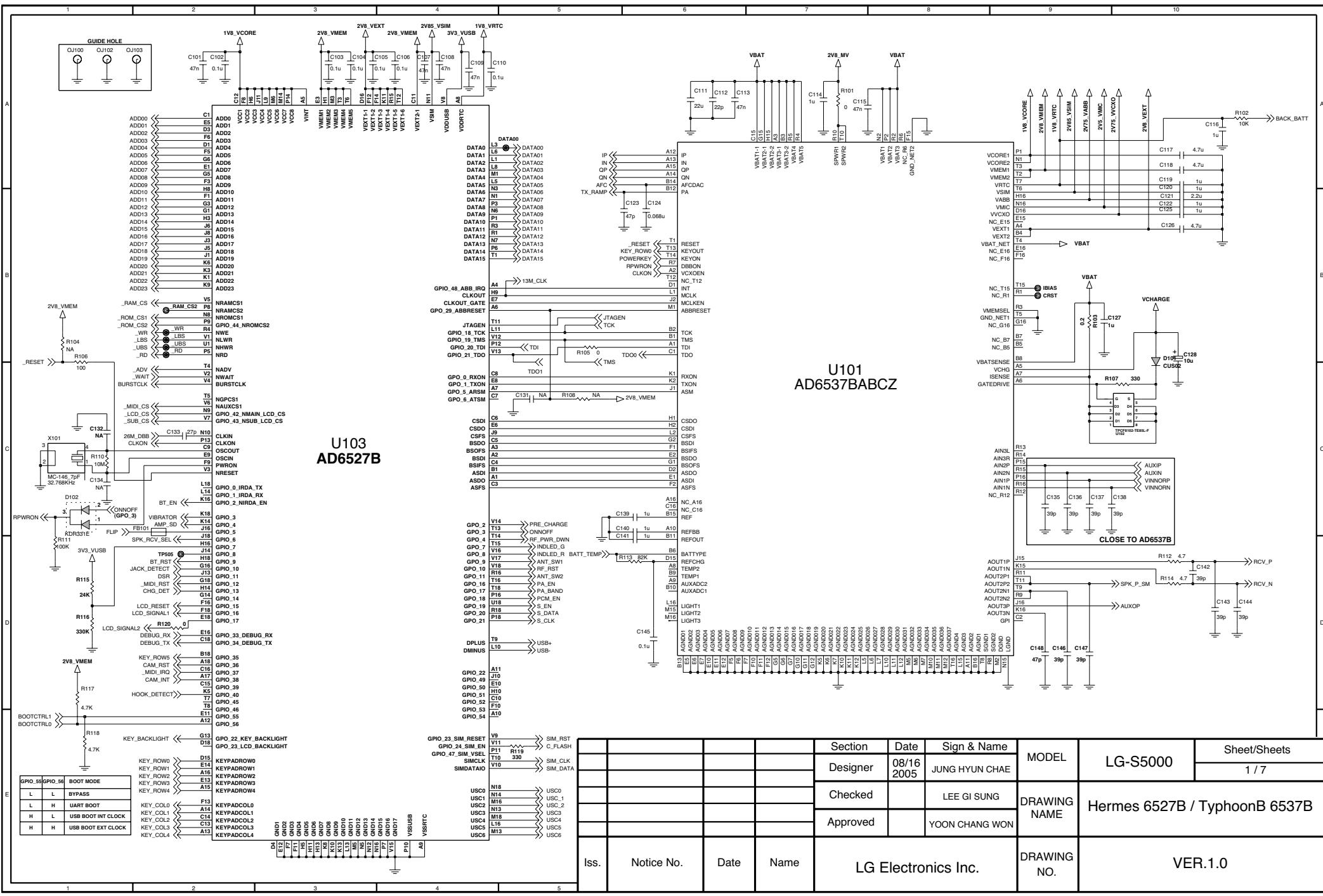
9. Phone test Finish is shown in below screen.



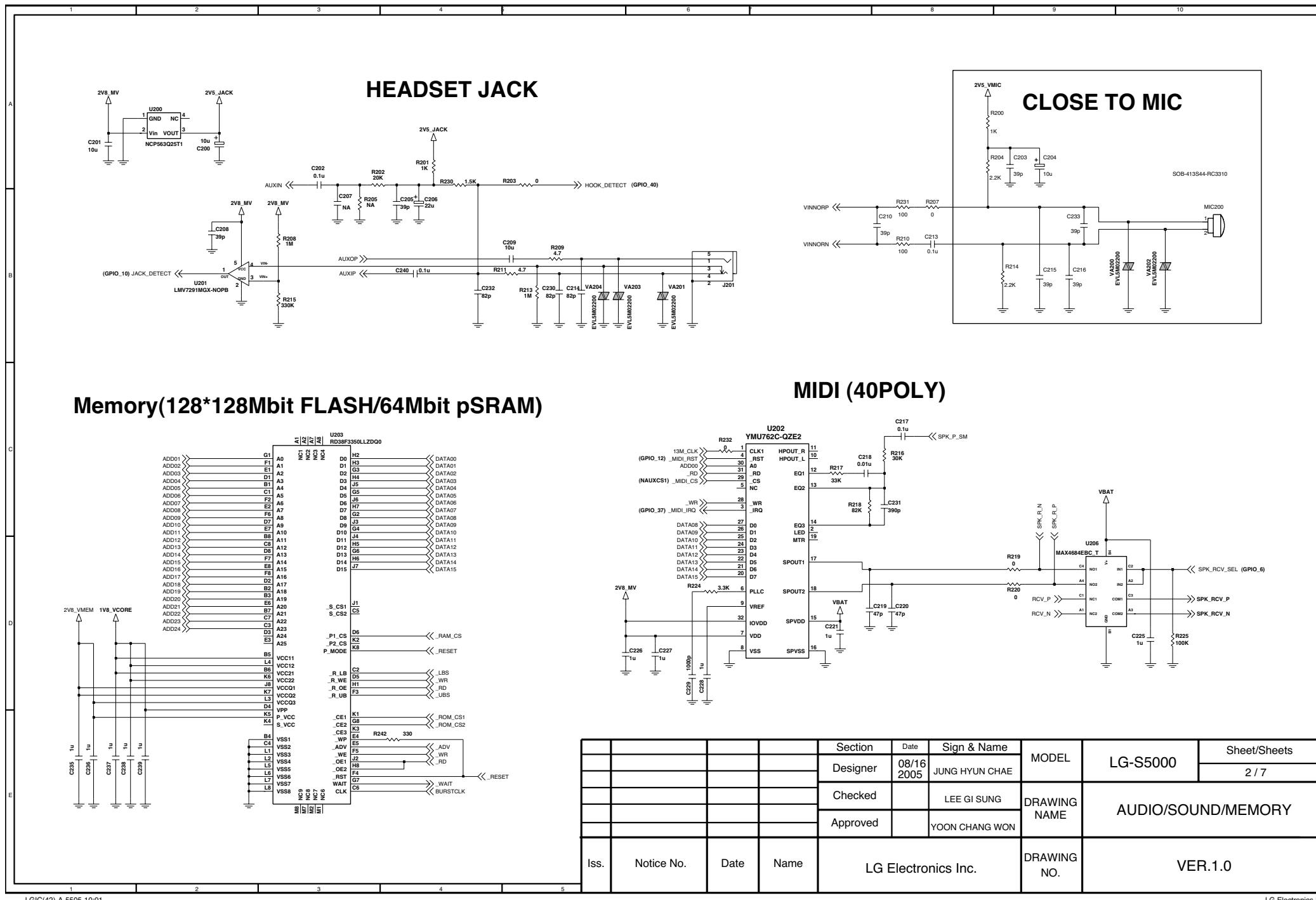
6. BLOCK DIAGRAM



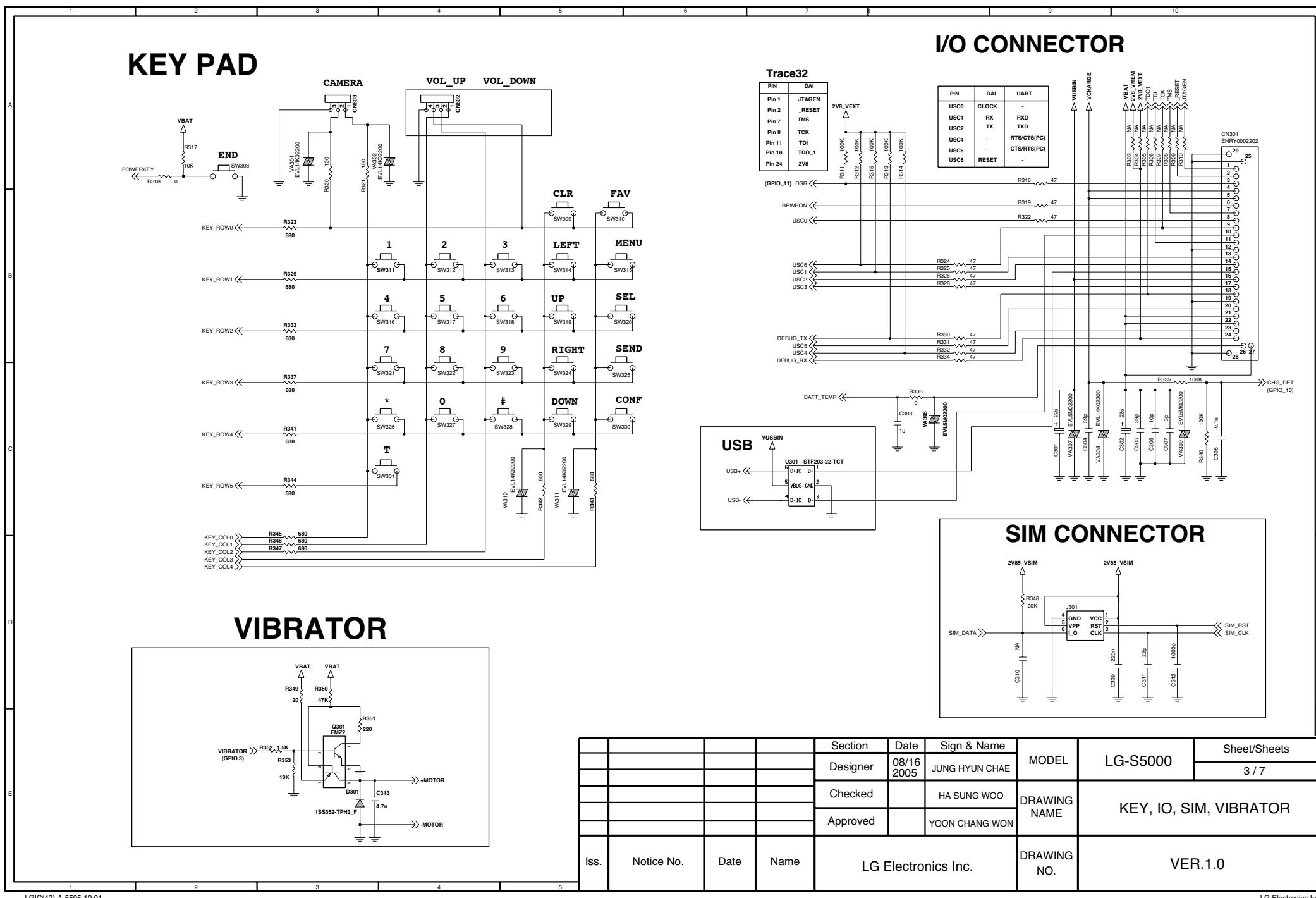
7. CIRCUIT DIAGRAM



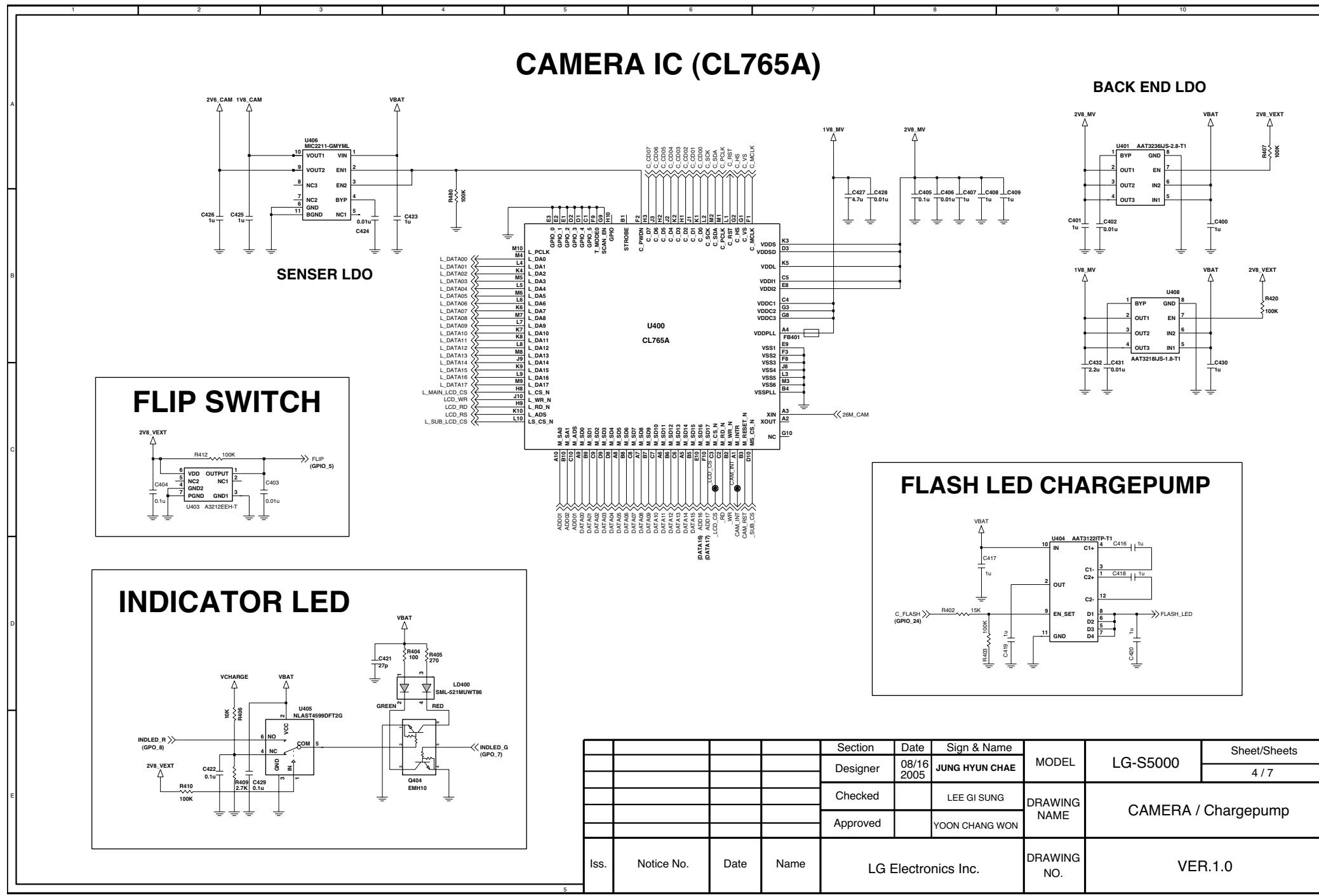
7. CIRCUIT DIAGRAM



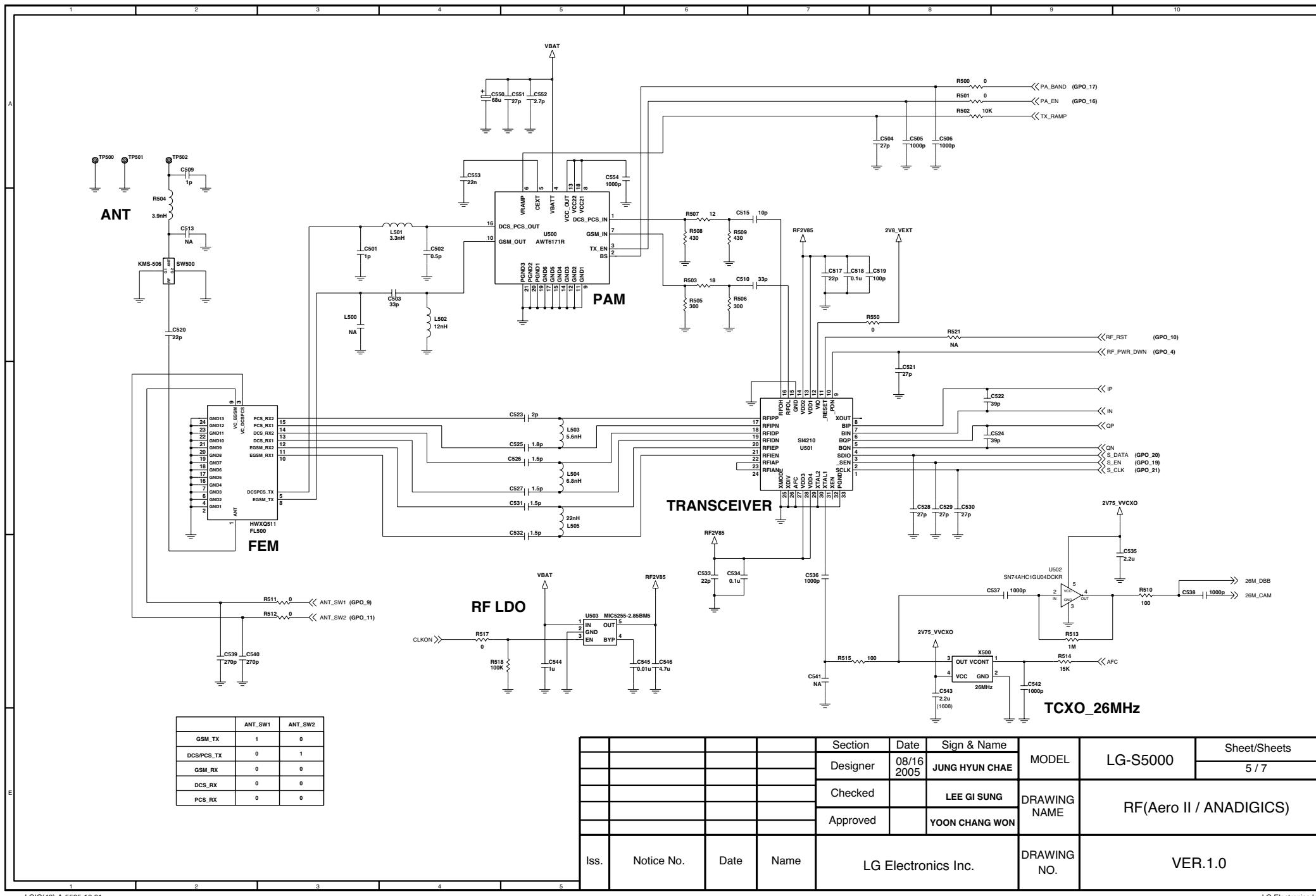
7. CIRCUIT DIAGRAM



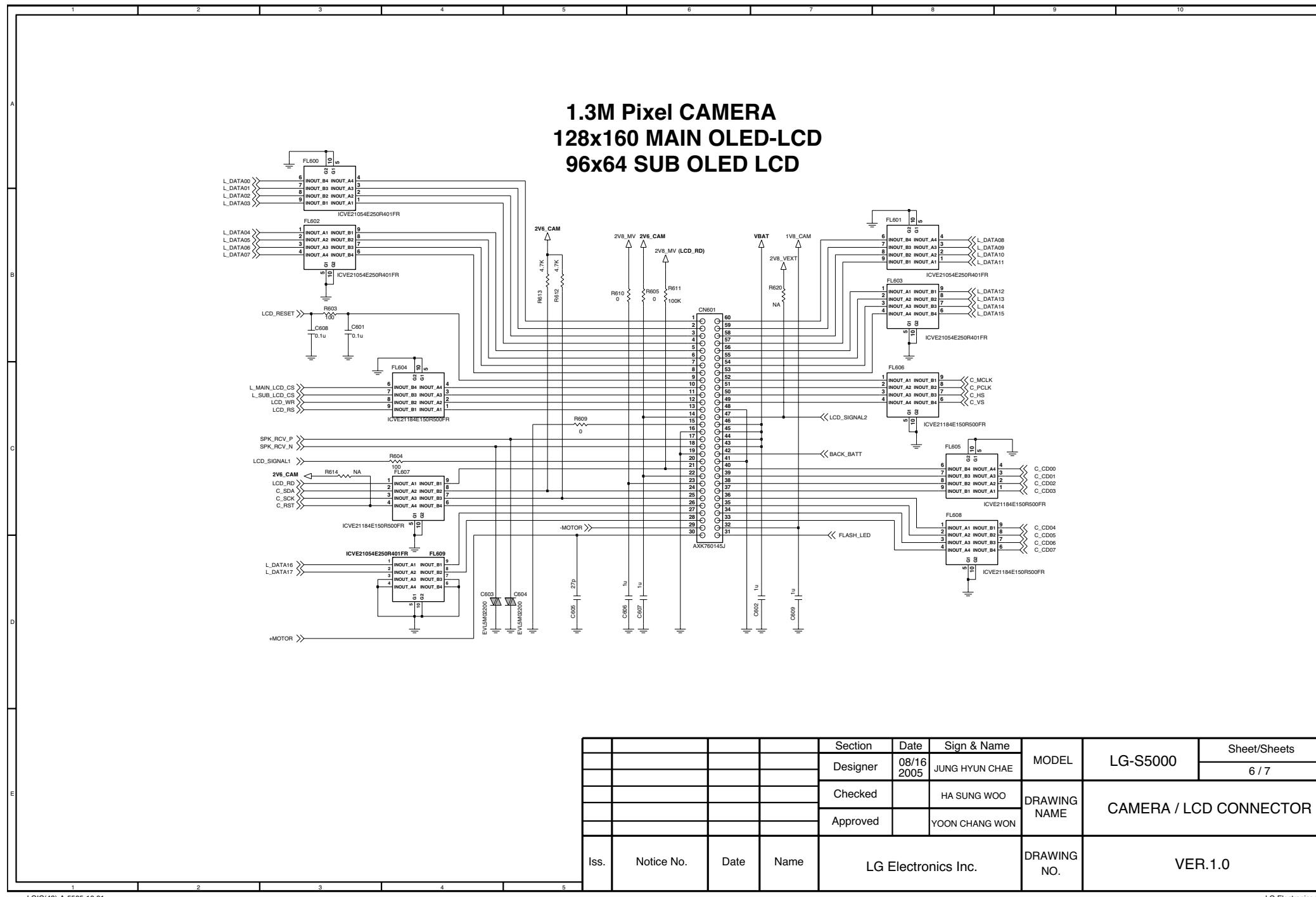
7. CIRCUIT DIAGRAM



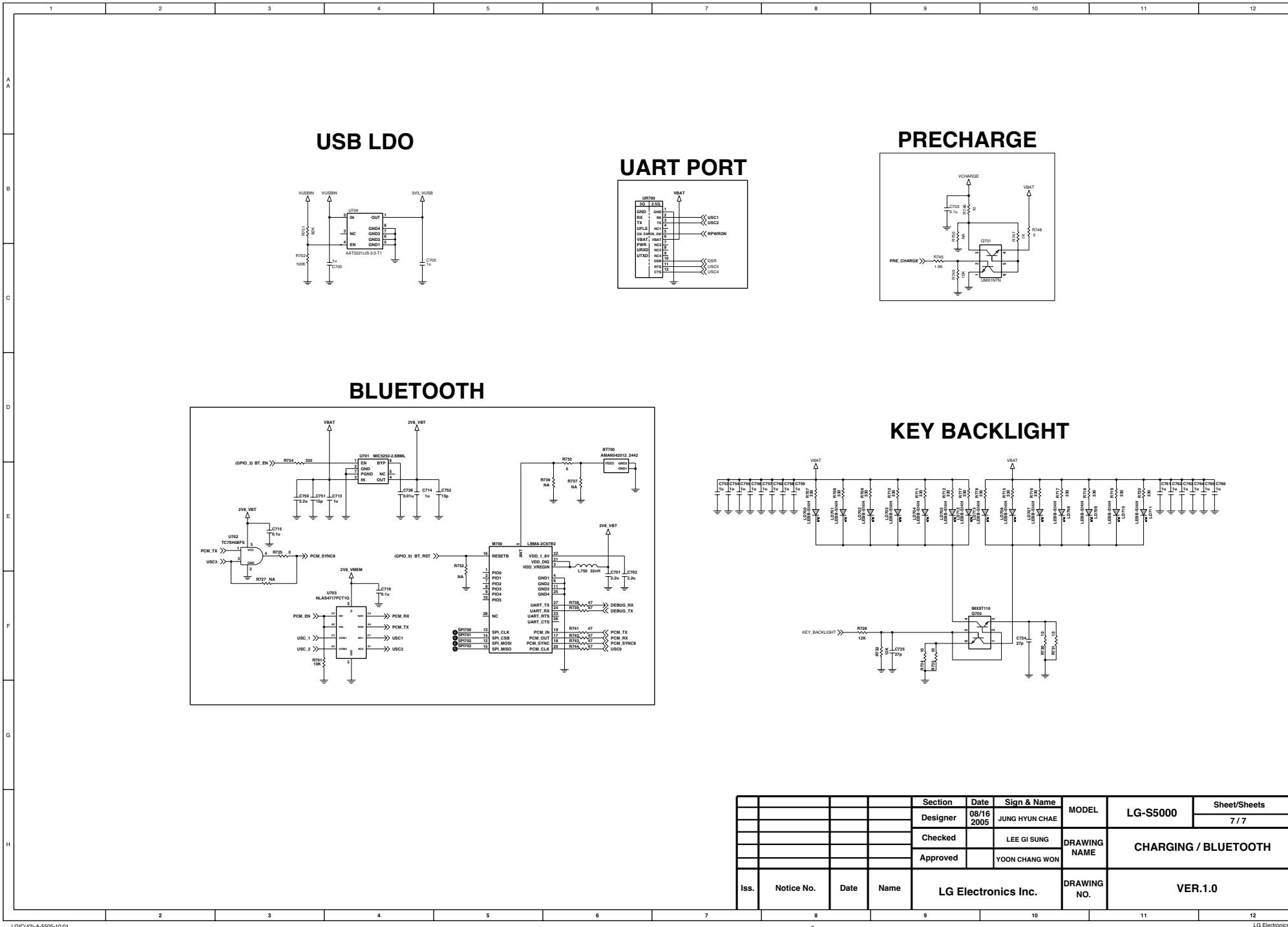
7. CIRCUIT DIAGRAM



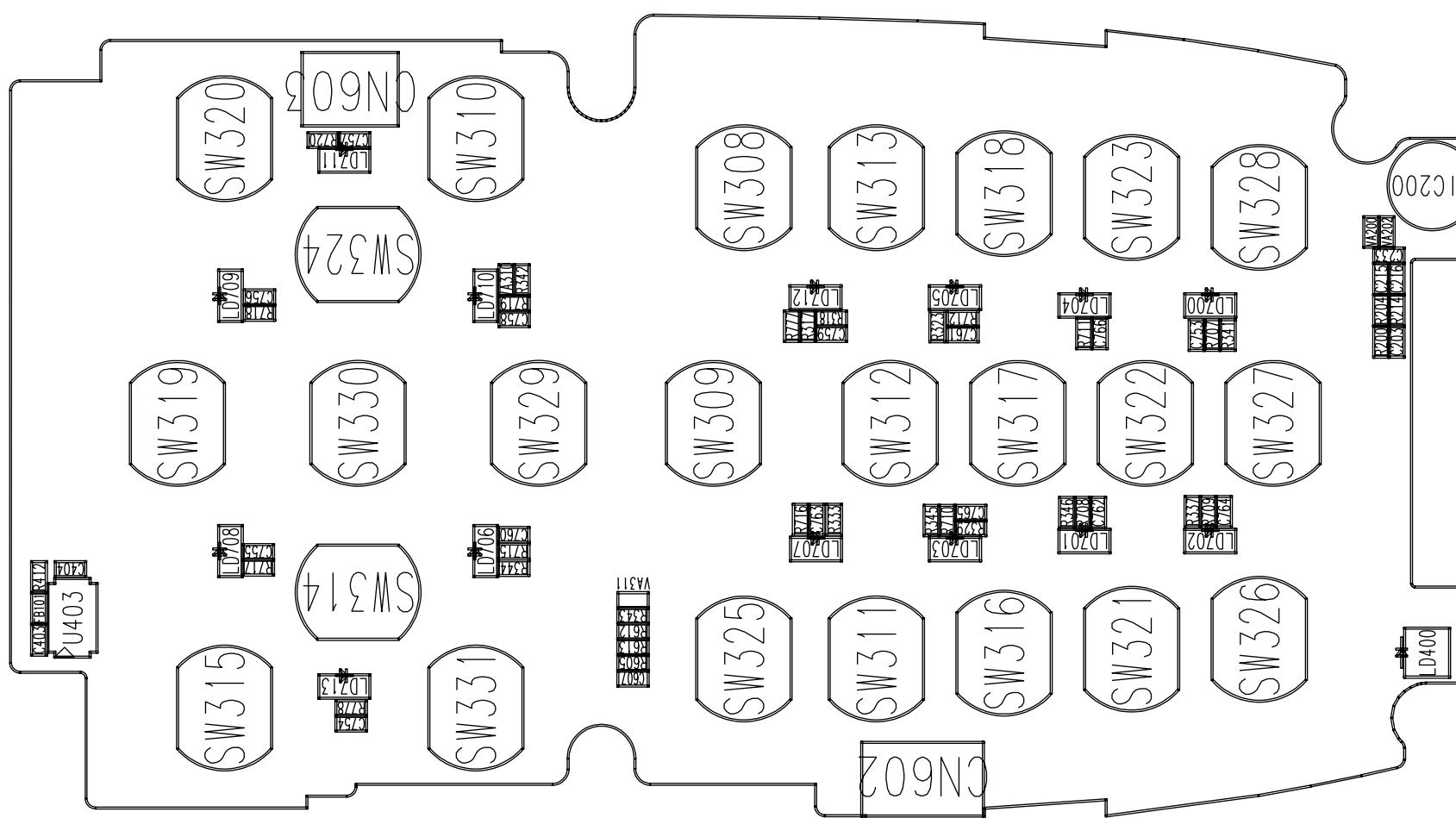
7. CIRCUIT DIAGRAM



7. CIRCUIT DIAGRAM

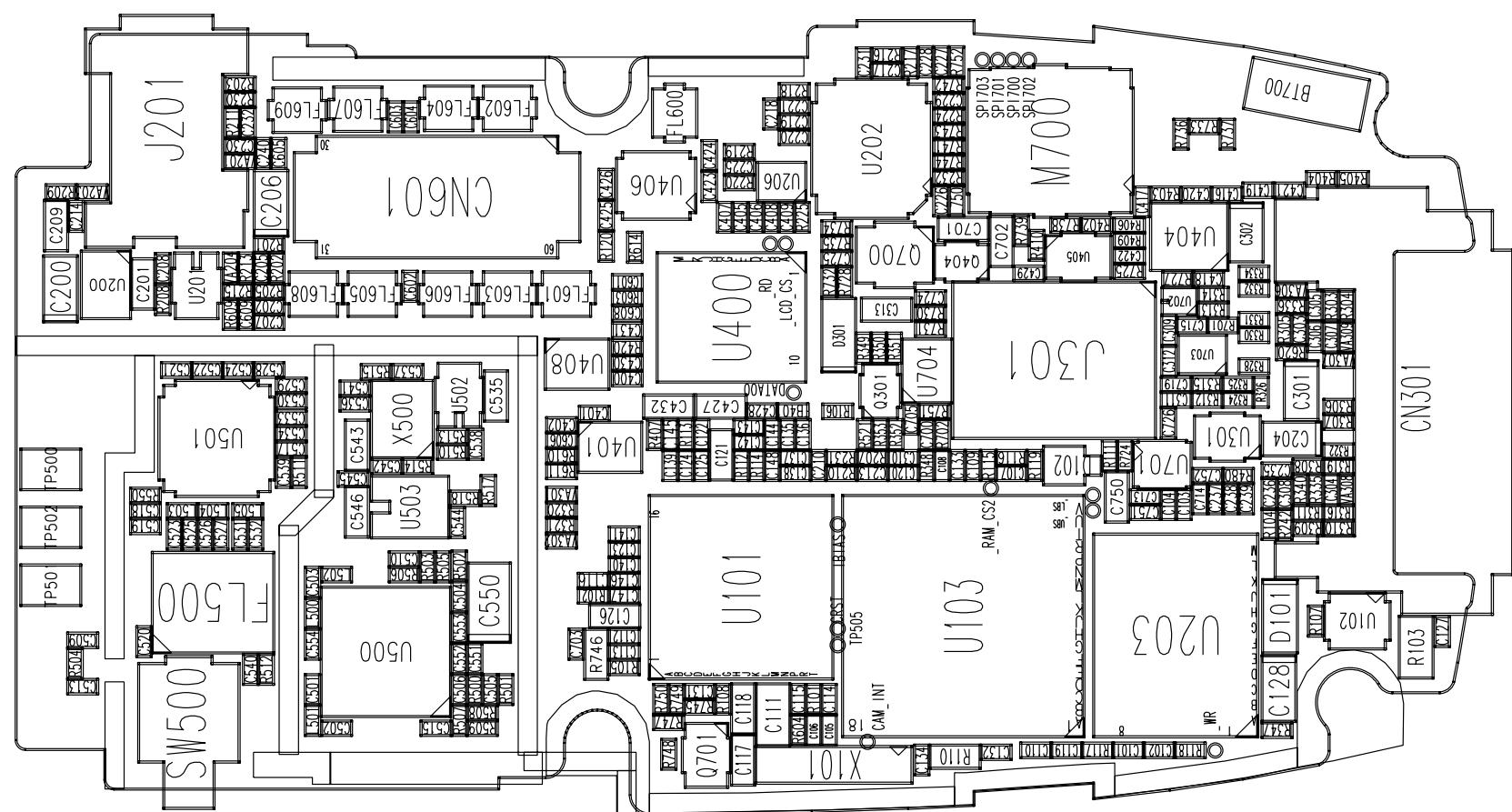


8. PCB LAYOUT



S5000-SPFY0110001-1.0-TOP

8. PCB LAYOUT



S5000-SPFY0110001-1.0-BTM

9. ENGINEERING MODE

A. About Engineering Mode

Engineering mode is designed to allow a service man/engineer to view and test the basic functions provided by a handset.

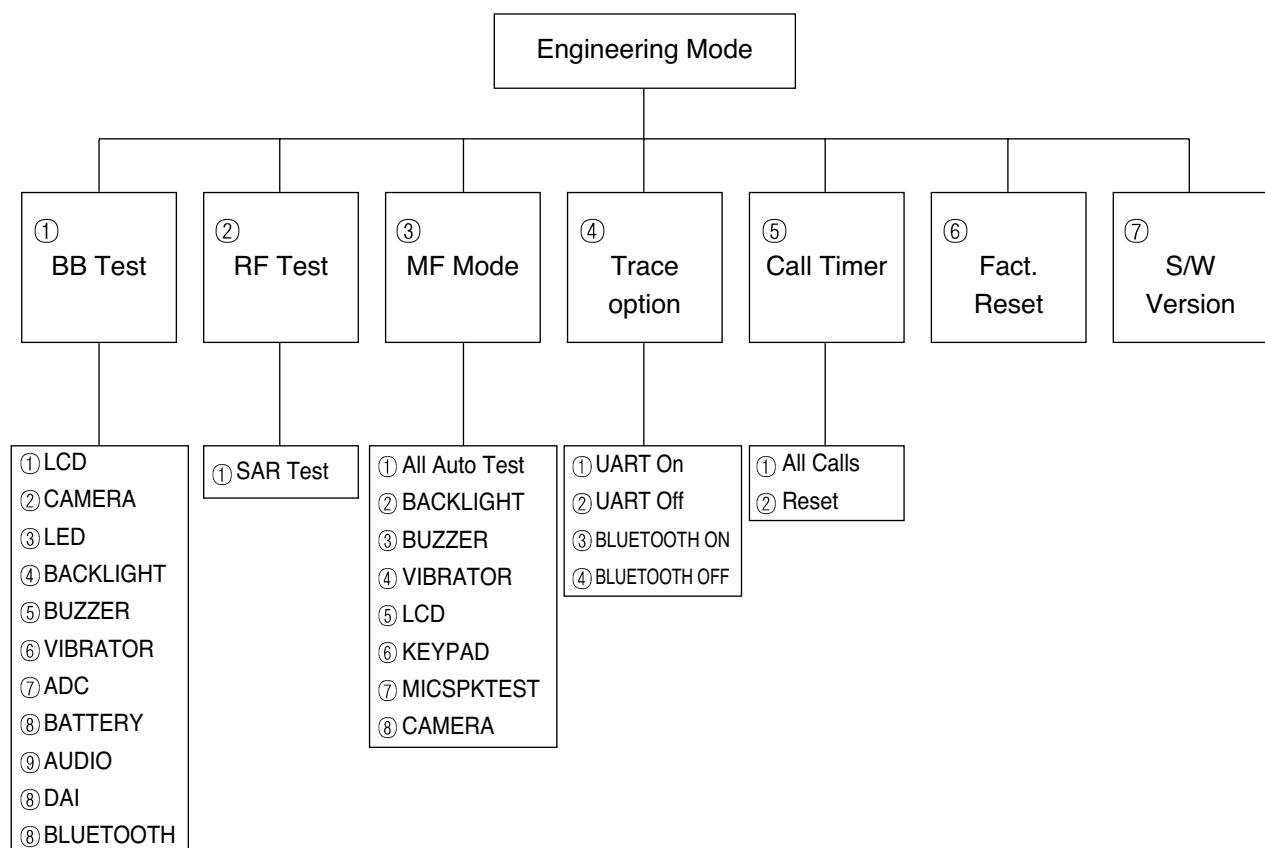
B. Access Codes

The key sequence for switching the engineering mode on is 2945#*#. Pressing END will switch back to non-engineering mode operation.

C. Key Operation

Use Up and Down key to select a menu and press 'select' key to progress the test. Pressing 'back' key will switch back to the original test menu.

D. Engineering Mode Menu Tree



9. ENGINEERING MODE

9.1 BB Test [MENU 1]

9.1.1 LCD

- 1) COLOUR : WHITE, RED, GREEN, BLUE, BLACK

9.1.2 CAMERA

This menu is to test the Camera.

- 1) Main LCD preview : It shows the picture on Main LCD.
- 2) Sub LCD preview : It shows the picture on Sub LCD.
- 3) Flash on : It turns on the Flash LED.
- 4) Flash off : It turns off the Flash LED.

9.1.3 LED

This menu is to test the LED.

- 1) Green On
- 2) Green Off
- 3) Red On
- 4) Red Off

9.1.4 Backlight

This menu is to test the LCD Backlight and Keypad EL Backlight.

- 1) Backlight on : LCD Backlight and Keypad EL Backlight light on at the same time.
- 2) Backlight off : LCD Backlight and Keypad EL Backlight light off at the same time.
- 3) Backlight value : This controls brightness of Backlight. When entering into the menu, the present backlight-value in the phone is displayed. Use Left/Right key to adjust the level of brightness. The value of the brightness set at last will be saved in the NVRAM.

9.1.5 Buzzer

This menu is to test the melody sound.

- 1) Melody on : Melody sound is played through the speaker.
- 2) Melody off : Melody sound is off.

9.1.6 Vibrator

This menu is to test the vibration mode.

- 1) Vibrator on : Vibration mode is on.
- 2) Vibrator off : Vibration mode is off.

9.1.7 ADC (Analog to Digital Converter)

This displays the value of each ADC.

- 1) MVBAT ADC : Main Voltage Battery ADC
- 2) AUX ADC : Auxiliary ADC
- 3) TEMPER ADC : Temperature ADC

9.1.8 BATTERY

- 1) Bat Cal : This displays the value of Battery Calibration. The following menus are displayed in order :
BATLEV_4V, BATLEV_3_LIMIT, BATLEV_2_LIMIT, BATLEV_1_LIMIT,
BAT_IDLE_LIMIT, BAT_INCALL_LIMIT, SHUT_DOWN_VOLTAGE,
BAT_RECHARGE_LMT
- 2) TEMP Cal : This displays the value of Temperature Calibration. The following menus are displayed in order : TEMP_HIGH_LIMIT, TEMP_HIGH_RECHARGE_LMT,
TEMP_LOW_RECHARGE_LMT, TEMP_LOW_LIMIT

9.1.9 Audio

This is a menu for setting the control register of Voiceband Baseband Codec chip.

Although the actual value can be written over, it returns to default value after switching off and on the phone.

- 1) VbControl1 : VbControl1 bit Register Value Setting
- 2) VbControl2 : VbControl2 bit Register Value Setting
- 3) VbControl3 : VbControl3 bit Register Value Setting
- 4) VbControl4 : VbControl4 bit Register Value Setting
- 5) VbControl5 : VbControl5 bit Register Value Setting
- 6) VbControl6 : VbControl6 bit Register Value Setting

9.1.0 DAI (Digital Audio Interface)

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

- 1) DAI AUDIO : DAI audio mode
- 2) DAI UPLINK : Speech encoder test
- 3) DAI DOWNLINK : Speech decoder test
- 4) DAI OFF : DAI mode off

9.1.11 Bluetooth

This menu is to test Bluetooth.

- 1) Enter test mode
- 2) Bypass mode On
- 3) Bypass mode Off

9. ENGINEERING MODE

9.2 RF Test [MENU 2]

9.2.1 SAR test

This menu is to test the Specific Absorption Rate.

- 1) SAR test on : Phone continuously process TX only. Call-setup equipment is not required.
- 2) SAR test off : TX process off

9.3 MF mode [MENU 3]

This manufacturing mode is designed to do the baseband test automatically. Selecting this menu will process the test automatically, and phone displays the previous menu after completing the test.

9.3.1 All auto test

LCD, Backlight, Vibrator, Buzzer, Key Pad, Mic&Speaker,

9.3.2 Backlight

LCD Backlight is on for about 1.5 seconds at the same time, then off.

9.3.3 Buzzer

This menu is to test the volume of Melody. It rings in the following sequence. Volume 1, Volume 2, Volume 3, Volume 0 (mute), Volume 4, Volume 5.

9.3.4 Vibrator

Vibrator is on for about 1.5 seconds.

9.3.5 LCD

1) LCD

Main LCD screen resolution tests horizontally and vertically one by one and fills the screen.

9.3.6 Key pad

When a pop-up message shows 'Press Any Key', you may press any keys including side keys, but not [Soft2 Key]. If the key is working properly, name of the key is displayed on the screen. Test will be completed in 15 seconds automatically.

9.3.7 MicSpk Test

The sound from MIC is recorded for about 3 seconds, then it is replayed on the speaker automatically.

9.4 Trace option [MENU 4]

This is NOT a necessary menu to be used by neither engineers nor users.

9.5 Call timer [MENU 5]

This menu is to set the Digital Audio Interface Mode for Speech Transcoder and Acoustic testing.

- 1) All calls : This displays total conversation time. User cannot reset this value.
- 2) Reset settings : This resets total conversation time to this, [00:00:00].
- 3) DAI DOWNLINK : Speech decoder test
- 4) DAI OFF : DAI mode off

9.6 Fact. Reset [MENU 6]

This Factory Reset menu is to format data block in the flash memory and this procedure set up the default value in data block.

Attention

- ① Fact. Reset (i.e.Factory Reset) should be only used during the Manufacturing process.
- ② Servicemen should NOT progress this menu, otherwise some of valuable data such as Setting value, RF Calibration data, etc. cannot be restored again.

9.7 S/W version

This displays software version stored in the phone.

10. STAND ALONE TEST

10. STAND ALONE TEST

10.1 Introduction

This manual explains how to examine the status of RX and TX of the model.

A. Tx Test

TX test - this is to see if the transmitter of the phones is activating normally.

B. Rx Test

RX test - this is to see if the receiver of the phones is activating normally.

10.2 Setting Method

A. COM port

- a. Move your mouse on the “Connect” button, then click the right button of the mouse and select “Com setting”.
- b. In the “Dialog Menu”, select the values as explained below.
 - Port : select a correct COM port
 - Baud rate : 38400
 - Leave the rest as default values

B. Tx

1. Selecting Channel

- Select one of GSM or DCS Band and input appropriate channel.

2. Selecting APC

- a. Select either Power level or Scaling Factor.
- b. Power level
 - Input appropriate value GSM (between 5~19) or DCS (between 0~15)
- c. Scaling Factor
 - A ‘Ramp Factor’ appears on the screen.
 - You may adjust the shape of the Ramp or directly input the values.

C. Rx

1. Selecting Channel

- Select one of GSM or DCS Band and input appropriate channel.

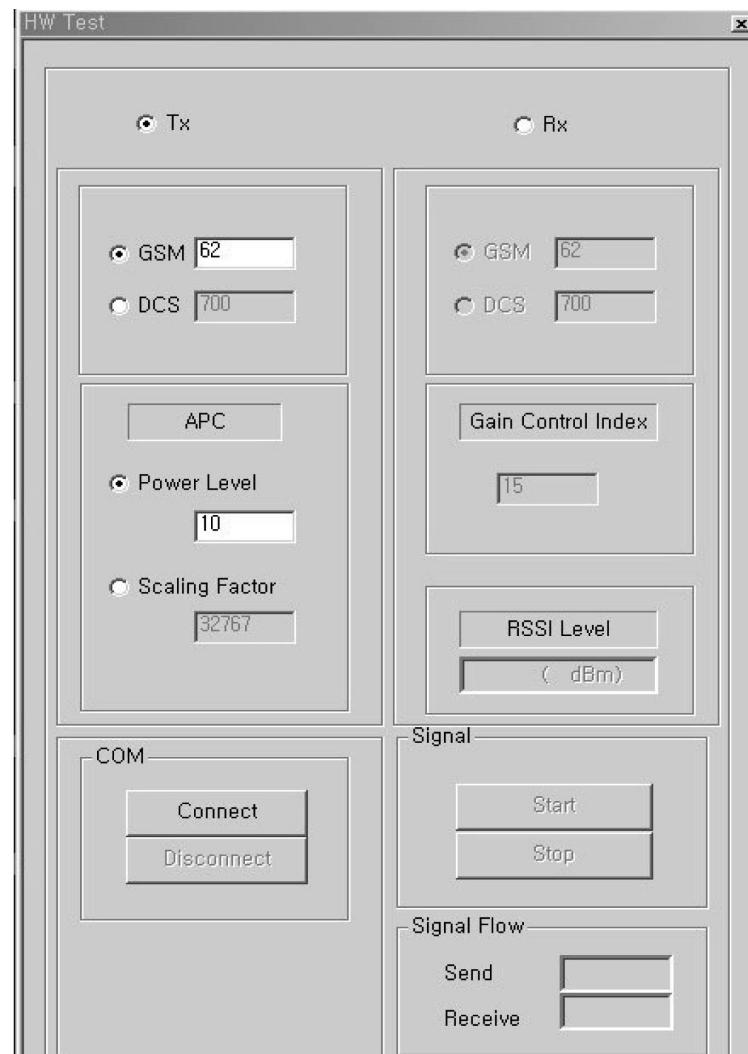
2. Gain Control Index (0~ 26) and RSSI level

- See if the value of RSSI is close to -16dBm when setting the value between 0 ~ 26 in Gain Control Index.
- Normal phone should indicate the value of RSSI close to -16dBm.

10.3 Means of Test

- a. Select a COM port
- b. Set the values in Tx or Rx
- c. Select band and channel
- d. After setting them all above, press connect button.
- e. Press the start button

Figure 10-1. HW test program



10. STAND ALONE TEST

Figure 10-2. HW test setting

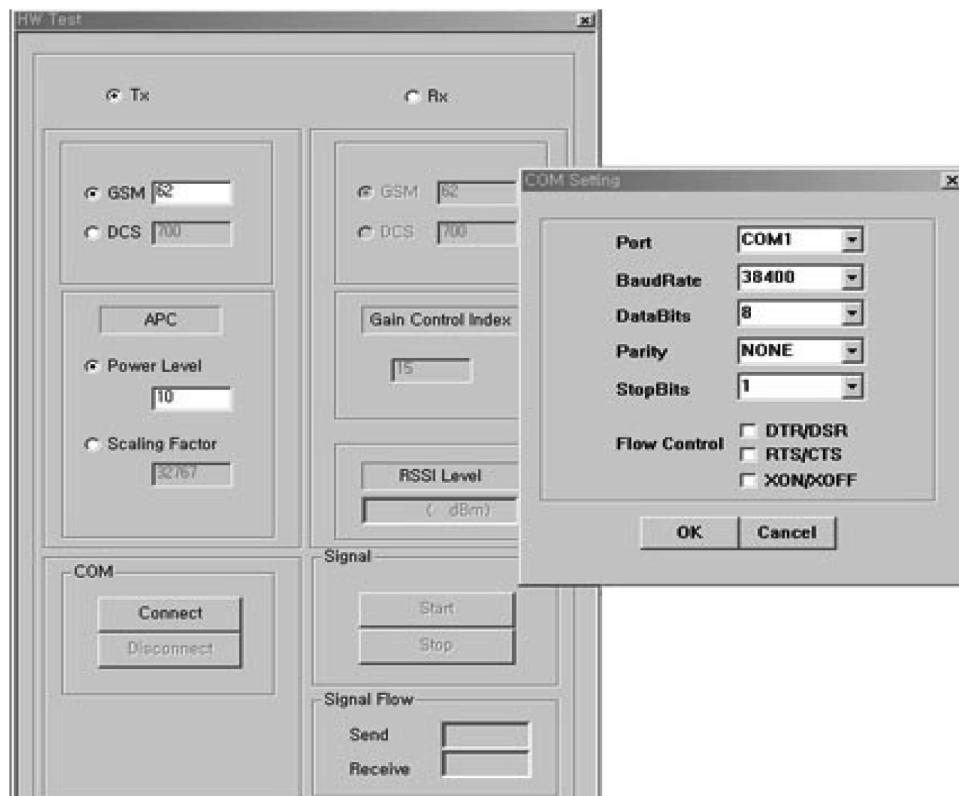
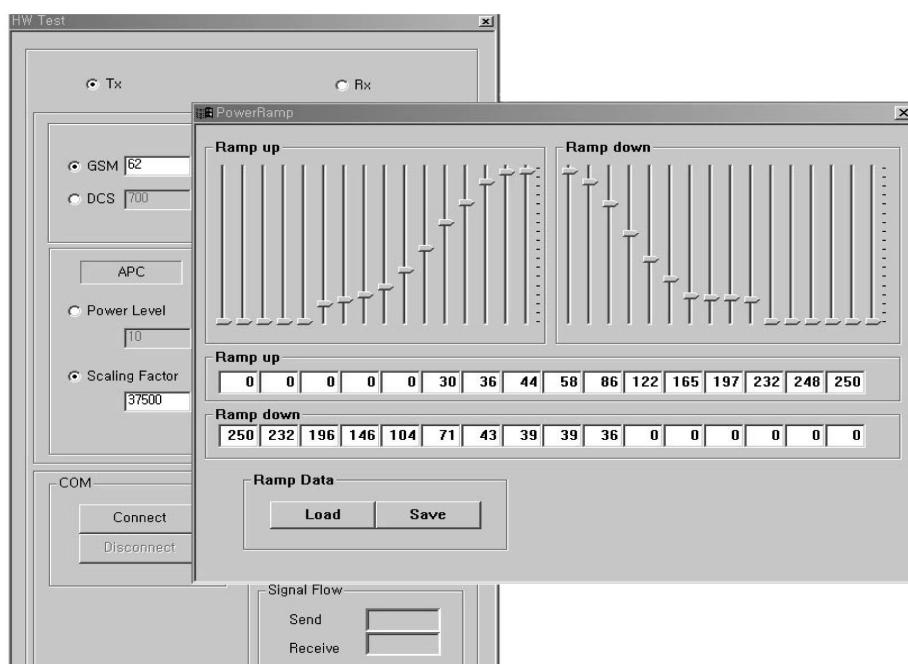


Figure 10-3. Ramping profile



11. AUTO CALIBRATION

11.1 Overview

Autocal (Auto Calibration) is the PC side Calibration tool that perform Tx ,Rx and Battery Calibration with Agilent 8960(GSM call setting instrument) and Tektronix PS2521G(Programmable Power supply). Autocal generate calibration data by communicating with phone and measuring equipment then write it into calibration data block of flash memory in GSM phone.

11.2 Requirements

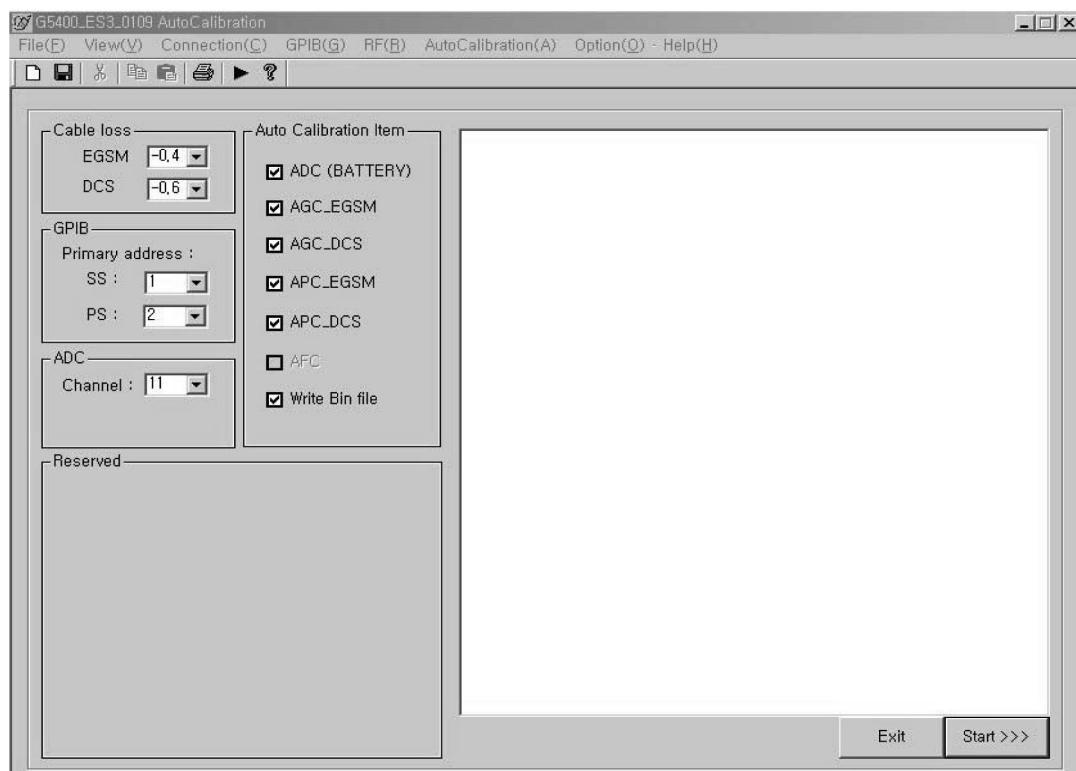
- PC or Notebook installed with Microsoft Windows 98/ME/2000/XP
- Auto Calibration program(Autocal.exe)
- GSM Phone
- LGE PIF JIG, Serial Cable, Data Cable
- Agilent 8960(Call Setting Instrument)
- Tektronix PS2521G(Programmable Power Supply)

11.3 Menu and Settings

- File(F) Clear View : Clear Calibration Status window texts
- File(F) Save View : Save Calibration Status window texts
- File(F) Save Setting : Save Current Calibration settings to setting file(*.cal)
- File(F) Load Setting : Load saved Calibration setting
- File(F) Make BIN ALL : Make binary file after calibration finished
- File(F) Make BIN BAT.Cal only : Make binary file of battery cal data only after calibration finished
- File(F) Make & Write BIN : Make binary file after calibration finished then download it to the Flash Memory
- View(V) Tools : Enable or disable Tool bar
- View(V) Status : Enable or disable status bar
- Connection(C) Connect : Connect the phone with PC. This procedure checks whether the PC is connected "ag8960 " or not. After that it performs sync. procedure with phone. If the sync. procedure is successful state column on status bar changed to SETUP, else you should disconnect phone and try again from the beginning and also check the whole connection. All measurement is performed at state SETUP.
- Connection(C) Port Setting : Show COM port setting dialog and Baudrate you can change,etc.
- GPIB(G) Connect : Connect the Ag8960 GPIB card with PC.

11. AUTO CALIBRATION

Figure 11-1. Auto Calibration Program



Screen → Cable loss : Enter the RF cable loss GSM and DCS

Screen → GPIB(Primary address) : Enter the SS(Ag8960) and PS(Tektronix PS2521G) GPIB address

Screen → ADC Channel : Default ADC Calibration Channel

Screen → Auto Calibration Item : Default Calibration Settings about Tx, Rx, ADC and write BIN file

11.4 AGC

This procedure is for Rx calibration.

In this procedure, We can get RSSI correction value. Set band EGSM and press Start button the result window will show correction values per every power level and gain code and the same measure is performed per every frequency.

11.5 APC

This procedure is for Tx calibration.

In this procedure you can get proper scale factor value and measured power level.

11.6 ADC

This procedure is for battery calibration.

You can get main Battery Config Table and temperature Config Table

11.7 Setting

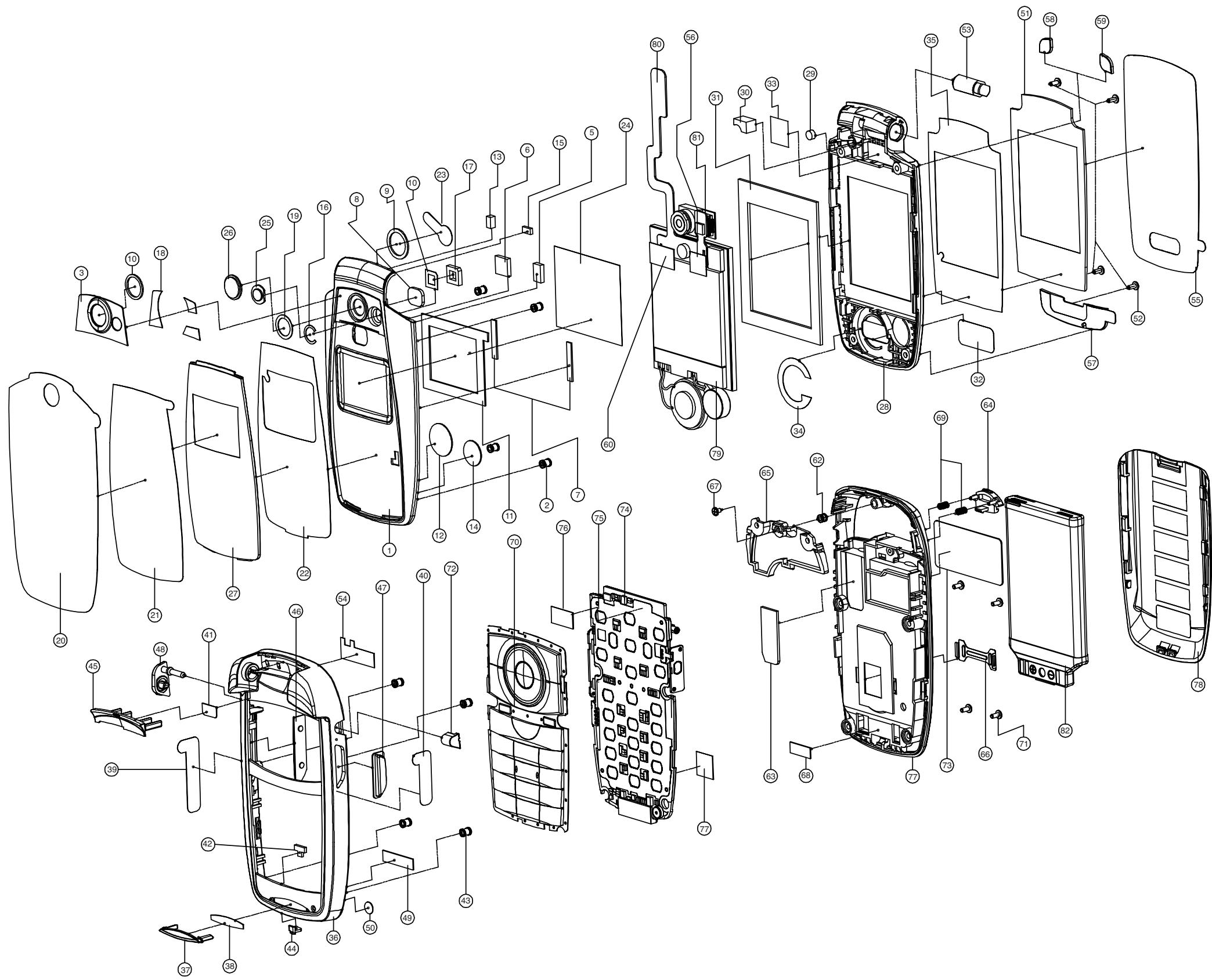
check com port and cable loss. Select automatic calibration item. If you uncheck one item calibration will stop from the unchecked item. This is useful when you want to process only one item.

11.8 How to do calibration

- A. Connect cable between phone and serial port of PC.
- B. Connect Ag8960 equipment and Power Supply and phone.
- C. Set correct port and baud rate.
- D. Press Start button. AutoCal process all calibration procedure
 - i. AGC EGSM
 - ii. AGC DCS
 - iii. APC EGSM
 - iv. APC DCS
 - v. ADC
- E. After finished all measurement. The state is return to SETUP.
- F. The Cal file will be generated and then the calibration data will be written into phone and then will be reset.

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW



12. EXPLODED VIEW & REPLACEMENT PART LIST

50	GAUZE,MIKE	1	MGBY0003402	
49	GASKET,IO,CONNECTOR	1	MGAZ0020101	
48	CAP,EARPHONE JACK	1	MCCC0027902	
47	BUTTON, SHUTTER	1	MBJP0003202	
46	BUTTON, SIDE	1	MBJL0025601	
45	STOPPER,HINGE	1	MSGB0011402	
44	INDICATOR, LED	1	MIAA0016201	
43	INSER,FRONT	4	MICC0003201	
42	PAD,INDICATOR LED	1	MPBZ0111701	
41	TAPE,STOPPER	1	MTAZ0098501	
40	TAPE,PROTECTION[CAMERA,KEY]	1	MTAB0083403	
39	TAPE,PROTECTION[VOLUM,KEY]	1	MTAB0083404	
38	TAPE(BUMPER,FRONT COVER)	1	MTAZ0085107	
37	BUMPER, FRONT COVER	1	MBHY0015102	
36	COVER,FRONT	1	MCJK0047102	
	COVER ASSY,FRONT			
35	TAPE,WINDOW(MAIN)	1	MTAD0040701	
34	TAPE,SPEAKER	1	MTAZ0085205	
33	TAPE,CAMERA,MODULE	1	MTAZ0085101	
32	GAUZE,SPEAKER	1	MGBY0003401	
31	PAD,LCD [MAIN]	1	MPBG0037701	
30	PAD,FPCB	1	MPBZ0108601	
29	MAGNET,SWITCH	1	MDAN0007501	
28	COVER,FOLDER(LOWER)	1	MCJH0029302	
	COVER ASSY,FOLDER(LOWER)			
27	WINDOW, ASSY(SUB)	1	AWAZ0007302	
26	WINDOW, CAMERA	1	MWAED011001	
25	WINDOW,FLASH (LED)	1	MWAH0002501	
24	TAPE,PROTECTION[SUB,WINDOW]	1	MTAB0083405	
23	TAPE,PROTECTION[CAMERA,WINDOW]	1	MTAB0083406	
22	TAPE,WINDOW(SUB)	1	MTAE0024101	
21	TAPE,PROTECTION[UPPER]	1	MTAB0083401	
20	TAPE,PROTECTION[DEC0 CAMERA]	1	MTAB0090301	
19	TAPE,CAMERA,WINDOW	1	MTAZ0085104	
18	TAPE,DEC0,CAMERA	1	MTAZ0085106	
17	TAPE,FLASH,RUBBER	1	MTAZ0085103	
16	TAPE,FLASH,WINDOW	1	MTAZ0085102	
15	PAD,CAMERA CONNECTOR	1	MPBZ0108401	
14	PAD,MOTOR	1	MPBJ0026901	
13	PAD,MAGNET	1	MPBZ0108501	
12	PAD,SPEAKER	1	MPBN0023501	
11	PAD,SUB,LCD	1	MPBQ0024401	
10	PAD,CAMERA DECO	1	MPBZ0107701	
9	PAD,CAMERA	1	MPBT0020301	
8	PAD,BACKUP,BATTERY	1	MPBZ0108701	
7	GASKET,LCD,SIDE	2	MGAZ0019002	
6	GASKET, LCD CONNECTOR [R]	1	MGAZ0020602	
5	GASKET, LCD CONNECTOR [L]	1	MGAZ0020601	
4	CAP(FLASH)	1	MCCZ0014501	
3	DEC0, CAMERA	1	MDAD0015201	
2	INSER,FOLDER	4	MICC0003201	
1	COVER,FOLDER(UPPER)	1	MCJJ0036402	
	COVER ASSY,FOLDER(UPPER)			
	COVER ASSY,FOLDER			

82	BATTERY CELL	1		
81	CAMERA,MODULE	1		
80	LCD,FPCB[MAIN]	1		
79	LCD,ASSY,MODULE	1		
	STICKER [INNET]	1	MSFZ0013901	
	COVER,BATTERY	1	MCJA0024701	
78	COVER ASSY,BATTERY	1	ACGA0014801	
77	LABEL,A/S	1	MLAB0001601	
76	TAPE,INSULATOR DOME S/W	1	MTAZ0099401	TAPE,INSULATOR[LCD]
75	DOME ASSY,METAL	1	ADCA0039902	
74	PCB ASSY,MAIN	1		
	LABEL,APPROVAL	1	MLAA0034401	
73	LABEL,MODEL	1	MLAK0013601	
72	CAP MOBILE SWITCH	1	MCCF0028001	
71	SCREW MACHINE	4	GMEY0002001	
70	KEY PAD ASSY	1	AKAZ0012203	
69	SPRING,LOCKER	2	MSDB0001701	
68	GASKET,IO,CONNECTOR(D-COVER)	1	MGAZ0019003	
67	SCREW MACHINE[INTENNA]	1	GMEY0003901	
66	SIM BRIDGE	1	MLEY0000801	
65	INTENNA	1		
64	LOCKER,BATTERY	1	MLEA0025602	
63	GASKET,MAIN,B,TO,B	1	MGAZ0019004	
62	INSERT (INTENNA)	1	MICA0005101	
61	COVER,REAR	1	MCJN0042401	
	COVER ASSY,REAR			
60	TAPE,INSULATOR[LCD]-BACKUP BATTERY	1	MTAZ0099401	TAPE,INSULATOR DOME S/W 38
	CAP,SCREW (FOLDER RIGHT)	1	MCCH0063601	
	TAPE,CAP,SCREW(RIGHT)	1	MTAZ0085204	
59	CAP ASSY,SCREW(RIGHT)	1	ACAZ0004701	
	CAP,SCREW (FOLDER LEFT)	1	MCCH0063701	
	TAPE,CAP,SCREW(LEFT)	1	MTAZ0085201	
58	CAP ASSY, SCREW(LEFT)	1	ACAZ0004702	
	TAPE,DEC0,SPEAKER	1	MTAA0096601	
	DEC0,SPEAKER	1	MDAN0007501	
57	DEC0 ASSY,SPEAKER	1	ADBY0008101	
56	TAPE,INSULATOR[LCD]	1	MTAZ0093101	
55	TAPE,PROTECTION[LOWER]	1	MTAB0083402	
54	TAPE,WATERPROOF	1	MTAB0091301	
53	HINGE,FOLDER	1	MHFD0003701	
	LABEL,BARCODE	1	MLAC0003401	
52	SCREW MACHINE	4	GMEY0002001	
51	WINDOW,LCD(MAIN)	1	MWAC0057402	

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.2 Replacement Parts <Mechanic component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
1		GSM(FOLDER)	TGFF0082309		STARRY BLACK	
2	AAAY00	ADDITION	AAAY0134401		Without Color	
3	ACGA00	COVER ASSY,BATTERY	ACGA0014801	STARLIT BLACK	Black	78
4	MCJA00	COVER,BATTERY	MCJA0024702	STARLIT BLACK	Black	
2	APEY00	PHONE	APEY0234303		Black	
3	ACGG00	COVER ASSY,FOLDER	ACGG0063402		Black	
4	ACAZ01	CAP ASSY	ACAZ0004701		Black	59
5	MCCH00	CAP,SCREW	MCCH0063601	RIGHT	Black	
5	MTAZ00	TAPE	MTAZ0085204		Without Color	
4	ACAZ02	CAP ASSY	ACAZ0004702	LEFT	Black	58
5	MCCH00	CAP,SCREW	MCCH0063701	LEFT	Black	
5	MTAZ00	TAPE	MTAZ0085201	TAPE,CAP,SCREW(LEFT)	Without Color	
4	ACGH00	COVER ASSY, FOLDER(LOWER)	ACGH0036902	Starlit Black	Black	
5	MCJH00	COVER,FOLDER(LOWER)	MCJH0029302	Starlit Back	Black	28
5	MGBY00	GAUZE	MGBY0003401		Black	32
5	MMAA00	MAGNET,SWITCH	MMAA0000601	LG-G510,511,512 common use, DIA : 3.0mm+1.5t	Silver	
5	MPBG00	PAD,LCD	MPBG0037701		Black	31
5	MPBZ00	PAD	MPBZ0108601	EVA SPONGE (4.8T) + TAPE 0.05T	Black	30
5	MTAD00	TAPE,WINDOW	MTAD0040701		Without Color	35
5	MTAZ01	TAPE	MTAZ0085101	TAPE CAMERA MODULE	Without Color	33
5	MTAZ04	TAPE	MTAZ0085205	tape,speaker	Without Color	34
4	ACGJ00	COVER ASSY, FOLDER(UPPER)	ACGJ0048402		Black	
5	AWAZ00	WINDOW ASSY	AWAZ0007302		Without Color	27
6	BFAA00	FILM,INMOLD	BFAA0033601	HI-835M		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	MWAF00	WINDOW,LCD(SUB)	MWAF0030702		Without Color	
5	MCCZ00	CAP	MCCZ0014501		Without Color	4
5	MCJJ00	COVER,FOLDER(UPPER)	MCJJ0036402	Starlit Black	Black	1
5	MDAD00	DECO,CAMERA	MDAD0015201	Black ion plating	Without Color	3
5	MGAZ01	GASKET	MGAZ0019002	LCD,SIDE-2t	Gold	7
5	MGAZ02	GASKET	MGAZ0020601	3.5X6X2t	Gold	5
5	MGAZ03	GASKET	MGAZ0020602	6X6X2t	Gold	6
5	MICC00	INSERT,FRONT(UPPER)	MICC0003201		DEEP SILVER	2
5	MPBJ00	PAD,MOTOR	MPBJ0026901		Black	14
5	MPBN00	PAD,SPEAKER	MPBN0023501		Black	12
5	MPBQ00	PAD,LCD(SUB)	MPBQ0024401		Black	11
5	MPBT00	PAD,CAMERA	MPBT0020301		Black	9
5	MPBZ01	PAD	MPBZ0107701	PAD CAMERA DECO	Black	10
5	MPBZ02	PAD	MPBZ0108401	PAD_CAMERA_CONNECTOR	Black	15
5	MPBZ03	PAD	MPBZ0108501	PAD_MAGNET	Black	13
5	MPBZ04	PAD	MPBZ0108701	SRS PORON 1.2+ Tape 0.05T	Black	8
5	MTAB00	TAPE,PROTECTION	MTAB0090301	DECO CAMERA PROTECTION TAPE	Without Color	20
5	MTAB01	TAPE,PROTECTION	MTAB0083401	TAPE PROTECTION UPPER	Without Color	21
5	MTAB02	TAPE,PROTECTION	MTAB0083405	LCD	Without Color	24
5	MTAB03	TAPE,PROTECTION	MTAB0083406	CAMERA,WINDOW	Without Color	23
5	MTAE00	TAPE,WINDOW(SUB)	MTAE0024101		Without Color	22
5	MTAZ00	TAPE	MTAZ0085102	FLASH,WINDOW	Without Color	16
5	MTAZ01	TAPE	MTAZ0085103	FLASH,RUBBER	Without Color	17
5	MTAZ02	TAPE	MTAZ0085104	CAMERA,WINDOW	Without Color	19
5	MTAZ03	TAPE	MTAZ0085106	TAPE,DECO,CAMERA	Without Color	18
5	MWAE00	WINDOW,CAMERA	MWAE0011001		Without Color	26

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
5	MWAH00	WINDOW,FLASH	MWAH0002501		Without Color	25
4	ACGK00	COVER ASSY,FRONT	ACGK0058402		Black	
5	MBHY00	BUMPER	MBHY0015102		Black	37
5	MBJL00	BUTTON,SIDE	MBJL0025602	Starlit Black	Black	46
5	MBJP00	BUTTON,SHUTTER	MBJP0003202	MP3 / CAMERA	Without Color	47
5	MCCC00	CAP,EARPHONE JACK	MCCC0027902	STARLIT BLACK	Black	48
5	MCJK00	COVER,FRONT	MCJK0047102	Starlit Black	Black	36
5	MGAZ00	GASKET	MGAZ0020101	IO CONNECTOR-15X3.7X0.3t	Gold	49
5	MGBY00	GAUZE	MGBY0003402	GAUZE MIKE	Black	50
5	MIAA00	INDICATOR,LED	MIAA0016201		Without Color	44
5	MICC01	INSERT,FRONT(UPPER)	MICC0003201		DEEP SILVER	43
5	MPBZ00	PAD	MPBZ0103701	PAD indigator LED-4X4X0.5t	Black	
5	MSGB00	STOPPER,HINGE	MSGB0011402	Starlit Black	Black	45
5	MTAB01	TAPE,PROTECTION	MTAB0083403	CAMERA KEY	Without Color	40
5	MTAB02	TAPE,PROTECTION	MTAB0083404	VOLUM KEY	Without Color	39
5	MTAZ00	TAPE	MTAZ0085107	TAPE,(BUMPER,FRONT COVER)	Without Color	38
4	ADBY00	DECO ASSY	ADBY0008101	DECO ASSY SPEAKER	Black	57
5	MDAN00	DECO,SPEAKER	MDAN0007501		Without Color	29
5	MTAA00	TAPE,DECO	MTAA0096601	SPEAKER	Without Color	
4	GMEY01	SCREW MACHINE,BIND	GMEY0002001	1.4 mm,3 mm,MSWR3(BK) ,B ,+ ,HEAD t=0.6, HEAD d2.7		71
4	MHFD00	HINGE,FOLDER	MHFD0003701	PI5.8 5Kgf CAN TYPE/ KATO SPRING(HEAD R1.0)	Without Color	53
4	MLAC00	LABEL,BARCODE	MLAC0003401	EZ LOOKS(user for mechanical)	Without Color	
4	MTAB01	TAPE,PROTECTION	MTAB0083402	LOWER	Without Color	55
4	MTAB02	TAPE,PROTECTION	MTAB0091301	Watertight	Without Color	54
4	MTAZ00	TAPE	MTAZ0093101	INSULATOR TAPE,LCD7X8	Blue	56
4	MWAC00	WINDOW,LCD	MWAC0057402		Black	51

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
3	ACGM00	COVER ASSY,REAR	ACGM0059202		Black	
4	GMEY00	SCREW MACHINE,BIND	GMEY0003901	1.4 mm,2.5 mm,MSWR3(BK) ,B ,+ ,HEAD D2.7	Silver	67
4	MCJN00	COVER,REAR	MCJN0042401	Starlit Black	Black	61
4	MGAZ01	GASKET	MGAZ0019003	IO,CONNECTOR	Gold	68
4	MGAZ02	GASKET	MGAZ0019004	MAIN,B,TO,B	Gold	63
4	MICA00	INSERT,FRONT	MICA0005101		DEEP SILVER	62
4	MLEA00	LOCKER,BATTERY	MLEA0025602	Starlit Black	Black	64
4	MLEY00	LOCKER	MLEY0000801	SIM LOCKER	Silver	66
4	MSDB01	SPRING,COIL	MSDB0001701	G7000	Pearl White	69
4	SNGF01	ANTENNA,GSM,FIXED	SNGF0010901	3.7 ,-9 dBd , 3.7 ,-9 dBd , ,Internal_Triple(GSM+DCS1800+PCS1900), Pb Free		
3	AKAZ00	KEYPAD ASSY	AKAZ0012203		Black	70
3	GMEY02	SCREW MACHINE,BIND	GMEY0002001	1.4 mm,3 mm,MSWR3(BK) ,B ,+ ,HEAD t=0.6, HEAD d2.7		52
3	MCCF00	CAP,MOBILE SWITCH	MCCF0028001	Starlit Black	Black	72
3	MLAK00	LABEL,MODEL	MLAK0013601		Without Color	73
5	ADCA00	DOME ASSY,METAL	ADCA0039902		Without Color	75
5	MLAB00	LABEL,A/S	MLAB0001601	8X8	White	77
5	MTAZ00	TAPE	MTAZ0099401	TAPE INSULATOR METAL DOME(9.6X4.3)	Blue	60,76

12. EXPLODED VIEW & REPLACEMENT PART LIST

<Main component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
4	SACY00	PCB ASSY,FLEXIBLE	SACY0039301		Red	
5	SACB00	PCB ASSY, FLEXIBLE,INSERT	SACB0025001			
6	SBCL00	BATTERY,CELL,LITHIUM	SBCL0001303	2 V,1 mAh,COIN ,SOLDER TYPE BACKUP BATTERY		
5	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0034801			
6	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0019301			
7	EDML00	DIODE,LED,MODULE	EDLM0004301	WHITE ,3 LED,3.5*3.5*1.0 ,R/TP ,MINI FLASH LED		
6	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0027801			
7	ENBY00	CONNECTOR,BOARD TO BOARD	ENBY0013007	60 PIN,0.4 mm,STRAIGHT ,AU ,STACKING HEIGHT 1.5 / HEADER FOR LCM FPCB		
7	ENBY01	CONNECTOR,BOARD TO BOARD	ENBY0019101	24 PIN,0.4 mm,STRAIGHT , ,H1.5, MALE		
7	ENBY02	CONNECTOR,BOARD TO BOARD	ENBY0020201	40 PIN,0.4 mm,ETC , ,H=0.9, Header		
6	SPCY00	PCB,FLEXIBLE	SPCY0061801	POLYI ,0.6 mm,MULTI-6 ,S5000 LCD FPCB		
4	SJMY01	VIBRATOR,MOTOR	SJMY0006503	3 V,0.08 A,10*3.45 ,17mm double tape		
4	SUSY01	SPEAKER	SUSY0006207	ASSY ,8 ohm,92 dB,17 mm,5T		
4	SVCY00	CAMERA	SVCY0009701	CMOS ,MEGA ,9*15*6.5 HARD PCB		
4	SVLM00	LCD MODULE	SVLM0012201	MAIN ,M_128*160 S_96*64 ,38.9*49.0*4.05 ,262k ,PM-OLED ,NONE ,M_LGDP4212 S_LDS514 ,1.77_1.04 Dual PM OLED		
3	SAFY00	PCB ASSY,MAIN	SAFY0145802			
4	SAFB00	PCB ASSY,MAIN,INSERT	SAFB0050401		Red	
5	SPKY00	PCB,SIDEKEY	SPKY0022501	POLYI ,0.2 mm,DOUBLE ,S5000_S5100 VOLUM SIDEKEY FPCB		
5	SPKY01	PCB,SIDEKEY	SPKY0022401	POLYI ,0.2 mm,DOUBLE ,S5000_S5100 CAMERA SIDEKEY FPCB		
4	SAFF00	PCB ASSY,MAIN,SMT	SAFF0069702		Red	
5	MLAC00	LABEL,BARCODE	MLAC0003301	EZ LOOKS(use for PCB ASSY MAIN(hardware))	Without Color	
5	SAFC00	PCB ASSY,MAIN,SMT BOTTOM	SAFC0064201		Red	
6	BT700	ANTENNA,GSM,FIXED	SNGF0011201	3.0:1 , -7.79 dBd, ,3.0:1 -7.79dBd,BT Chip Antenna Pb-Free SMD		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C101	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C102	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C103	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C104	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C105	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C106	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C107	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C108	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C109	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C110	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C111	CAP,CERAMIC,CHIP	ECCH0000393	22 uF,6.3V ,M ,X5R ,HD ,2012 ,R/TP		
6	C112	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C113	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C114	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V ,Z ,Y5V ,TC ,1005 ,R/TP		
6	C115	CAP,CERAMIC,CHIP	ECCH0000163	47 nF,10V,K,X5R,HD,1005,R/TP		
6	C116	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C117	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C118	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C119	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C120	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V ,Z ,Y5V ,TC ,1005 ,R/TP		
6	C121	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C122	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V ,Z ,Y5V ,TC ,1005 ,R/TP		
6	C123	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C124	CAP,CERAMIC,CHIP	ECCH0000165	68 nF,6.3V,K,X5R,HD,1005,R/TP		
6	C125	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V ,Z ,Y5V ,TC ,1005 ,R/TP		
6	C126	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C127	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C128	CAP,TANTAL,CHIP,MAKER	ECTZ0003701	10 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C133	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C135	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C136	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C137	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C138	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C139	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C140	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C141	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C142	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C143	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C144	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C145	CAP,CERAMIC,CHIP	ECCH0000168	0.1 uF,16V,Z,Y5V,HD,1005,R/TP		
6	C146	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C147	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C148	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C200	CAP,TANTAL,CHIP,MAKER	ECTZ0003701	10 uF,6.3V,M,STD,2012,R/TP		
6	C201	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V,M,X5R,TC,1608,R/TP		
6	C202	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C204	CAP,TANTAL,CHIP,MAKER	ECTZ0004202	10 uF,10V,M,STD,2012,R/TP		
6	C205	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C206	CAP,TANTAL,CHIP,MAKER	ECTZ0004201	22 uF,6.3V,M,STD,2012,R/TP		
6	C208	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C209	CAP,CERAMIC,CHIP	ECCH0007901	10 uF,4V,M,X5R,TC,1608,R/TP		
6	C210	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C213	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C214	CAP,CERAMIC,CHIP	ECCH0000127	82 pF,50V,J,NP0,TC,1005,R/TP		
6	C217	CAP,CERAMIC,CHIP	ECCH0000168	0.1 uF,16V,Z,Y5V,HD,1005,R/TP		
6	C218	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C219	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C220	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
6	C221	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C225	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V,K,X5R,TC,1005,R/TP		
6	C226	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C227	CAP,CERAMIC,CHIP	ECCH0004903	1 uF,6.3V,Z,Y5V,TC,1005,R/TP		
6	C228	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V,K,X5R,TC,1005,R/TP		
6	C229	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C230	CAP,CERAMIC,CHIP	ECCH0000127	82 pF,50V,J,NP0,TC,1005,R/TP		
6	C231	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
6	C232	CAP,CERAMIC,CHIP	ECCH0000127	82 pF,50V,J,NP0,TC,1005,R/TP		
6	C235	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C236	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C237	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C238	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C239	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C240	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C301	CAP,TANTAL,CHIP,MAKER	ECTZ0004201	22 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C302	CAP,TANTAL,CHIP,MAKER	ECTZ0004201	22 uF,6.3V ,M ,STD ,2012 ,R/TP		
6	C303	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C304	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C305	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C306	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C307	CAP,CERAMIC,CHIP	ECCH0000104	3 pF,50V,C,NP0,TC,1005,R/TP		
6	C308	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C309	CAP,CERAMIC,CHIP	ECCH0004902	220 nF,10V ,Z ,Y5V ,TC ,1005 ,R/TP		
6	C311	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C312	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C313	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C400	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C401	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C402	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C405	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C406	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C407	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C408	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C409	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C416	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C417	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C418	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C419	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C420	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C421	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C422	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C423	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C424	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C425	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C426	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C427	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C428	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C429	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C430	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C431	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C432	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C501	CAP,CERAMIC,CHIP	ECCH0000102	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C502	CAP,CERAMIC,CHIP	ECCH0000101	.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C503	CAP,CERAMIC,CHIP	ECCH0000186	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C504	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C505	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C506	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C509	CAP,CERAMIC,CHIP	ECCH0000102	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C510	CAP,CERAMIC,CHIP	ECCH0000186	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
6	C515	CAP,CERAMIC,CHIP	ECCH0000110	10 pF,50V,D,NP0,TC,1005,R/TP		
6	C517	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C518	CAP,CERAMIC,CHIP	ECCH0000168	0.1 uF,16V,Z,Y5V,HD,1005,R/TP		
6	C519	CAP,CERAMIC,CHIP	ECCH0000128	100 pF,50V,J,NP0,TC,1005,R/TP		
6	C520	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C521	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C522	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C523	CAP,CERAMIC,CHIP	ECCH0000174	2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C524	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C525	CAP,CERAMIC,CHIP	ECCH0000178	1.8 pF,50V ,D ,NP0 ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C526	CAP,CERAMIC,CHIP	ECCH0000103	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C527	CAP,CERAMIC,CHIP	ECCH0000103	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C528	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C529	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C530	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C531	CAP,CERAMIC,CHIP	ECCH0000103	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C532	CAP,CERAMIC,CHIP	ECCH0000103	1.5 pF,50V,C,NP0,TC,1005,R/TP		
6	C533	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
6	C534	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C535	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C536	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C537	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C538	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C539	CAP,CERAMIC,CHIP	ECCH0000135	270 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C540	CAP,CERAMIC,CHIP	ECCH0000135	270 pF,50V ,K ,X7R ,HD ,1005 ,R/TP		
6	C542	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C543	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C544	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C545	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C546	CAP,CERAMIC,CHIP	ECCH0006201	4.7 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C550	CAP,TANTAL,CHIP,MAKER	ECTZ0004203	68 uF,6.3V ,M ,STD ,3216 ,R/TP		
6	C551	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C552	CAP,CERAMIC,CHIP	ECCH0000184	2.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
6	C553	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP		
6	C554	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
6	C601	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		
6	C602	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C603	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	C604	VARISTOR	SEVY0003901	5.5 V , ,SMD ,480pF, 1005		
6	C605	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C606	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C608	CAP,CERAMIC,CHIP	ECCH0000167	0.1 uF,6.3V,K,X5R,HD,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C609	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C700	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C701	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C702	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C703	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C705	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C713	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C714	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C715	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C719	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C724	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C725	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP		
6	C726	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C750	CAP,CERAMIC,CHIP	ECCH0005801	2.2 uF,6.3V ,K ,X5R ,TC ,1608 ,R/TP		
6	C751	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	C752	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
6	CN301	CONNECTOR,I/O	ENRY0002202	24 PIN,0.5 mm,ETC ,AU ,OFFSET TYPE		
6	CN601	CONNECTOR,BOARD TO BOARD	ENBY0013008	60 PIN,0.4 mm,STRAIGHT ,AU ,STACKING HEIGHT 1.5 / SOCKET FOR LCM FPCB		
6	D101	DIODE,SWITCHING	EDSY0012101	US-FLAT ,30 V,1 A,R/TP ,2.5*1.25*0.6(t)		
6	D102	DIODE,SWITCHING	EDSY0016001	ESM ,15 V,100 mA,R/TP ,PB-FREE		
6	D301	DIODE,SWITCHING	EDSY0012301	1-1E1A ,85 V,1 A,R/TP ,P=200mW, IFM=200mA		
6	FB401	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,		
6	FL500	FILTER,SEPERATOR	SFAY0005602	900 ,1800.1900 ,2.7 dB,3.0 dB,30 dB,ETC ,5.6*4.5*1.4, TRIPLE FEM		
6	FL600	FILTER,EMI/POWER	SFEY0007102	SMD ,5.6 V,SMD ,4ch. R-Varistor Array(400Ohm,25pF)		
6	FL601	FILTER,EMI/POWER	SFEY0007102	SMD ,5.6 V,SMD ,4ch. R-Varistor Array(400Ohm,25pF)		
6	FL602	FILTER,EMI/POWER	SFEY0007102	SMD ,5.6 V,SMD ,4ch. R-Varistor Array(400Ohm,25pF)		
6	FL603	FILTER,EMI/POWER	SFEY0007102	SMD ,5.6 V,SMD ,4ch. R-Varistor Array(400Ohm,25pF)		
6	FL604	FILTER,EMI/POWER	SFEY0007103	SMD ,18 V, ,SMD ,4ch. R-Varistor Array(50Ohm,15pF), Pb-free		
6	FL605	FILTER,EMI/POWER	SFEY0007103	SMD ,18 V, ,SMD ,4ch. R-Varistor Array(50Ohm,15pF), Pb-free		
6	FL606	FILTER,EMI/POWER	SFEY0007103	SMD ,18 V, ,SMD ,4ch. R-Varistor Array(50Ohm,15pF), Pb-free		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	FL607	FILTER,EMI/POWER	SFEY0007103	SMD ,18 V, ,SMD ,4ch. R-Varistor Array(50Ohm,15pF), Pb-free		
6	FL608	FILTER,EMI/POWER	SFEY0007103	SMD ,18 V, ,SMD ,4ch. R-Varistor Array(50Ohm,15pF), Pb-free		
6	FL609	FILTER,EMI/POWER	SFEY0007102	SMD ,5.6 V,SMD ,4ch. R-Varistor Array(400Ohm,25pF)		
6	J201	CONN,JACK/PLUG, EARPHONE	ENJE0002301	3,5 PIN,G7000 EAR JACK 3 pole, 5 pin KSD		
6	J301	CONN,SOCKET	ENSY0001608	6 PIN,ETC ,5D ,2.54 mm,1.8T		
6	L501	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
6	L502	INDUCTOR,CHIP	ELCH0005003	12 nH,J ,1005 ,R/TP ,		
6	L503	INDUCTOR,CHIP	ELCH0005014	5.6 nH,S ,1005 ,R/TP ,		
6	L504	INDUCTOR,CHIP	ELCH0005015	6.8 nH,S ,1005 ,R/TP ,		
6	L505	INDUCTOR,CHIP	ELCH0004711	22 nH,J ,1005 ,R/TP ,		
6	L750	INDUCTOR,CHIP	ELCH0004711	22 nH,J ,1005 ,R/TP ,		
6	M700	IC	EUSY0239102	6.9 * 7.9 * 1.5 mm ,28 PIN,R/TP ,Bluetooth Module v1.2, 26MHz, For GSM		
6	Q301	TR,BJT,ARRAY	EQBA0002701	EMT6 ,150 mW,R/TP ,NPN, PNP, 150 mA		
6	Q404	TR,BJT,NPN	EQBN0017701	TES6 ,150 mW,R/TP ,50 V, 100 mA, Dual Digital TR		
6	Q700	TR,BJT,NPN	EQBN0004801	SMT6 ,0.2 W,R/TP ,		
6	Q701	TR,BJT,ARRAY	EQBA0000406	SC-70 ,0.2 W,R/TP ,CDMA,Common use		
6	R101	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R102	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R103	RES,CHIP	ERHY0001102	0.2 ohm,1/4W ,F ,2012 ,R/TP		
6	R105	RES,CHIP	ERHY0000101	0 ohm,1/16W,F,1005,R/TP		
6	R106	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R107	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R110	RES,CHIP	ERHY0000512	10M ohm,1/16W,J,1608,R/TP		
6	R111	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R112	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R113	RES,CHIP	ERHY0000152	82K ohm,1/16W,F,1005,R/TP		
6	R114	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R115	RES,CHIP	ERHY0000267	24K ohm,1/16W,J,1005,R/TP		
6	R116	RES,CHIP	ERHY0000291	330K ohm,1/16W,J,1005,R/TP		
6	R117	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R118	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R119	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R120	RES,CHIP	ERHY0000101	0 ohm,1/16W,F,1005,R/TP		
6	R201	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R202	RES,CHIP	ERHY0000265	20K ohm,1/16W,J,1005,R/TP		
6	R203	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R207	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R208	RES,CHIP	ERHY0000296	1M ohm,1/16W,J,1005,R/TP		
6	R209	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R210	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R211	RES,CHIP	ERHY0000202	4.7 ohm,1/16W,J,1005,R/TP		
6	R213	RES,CHIP	ERHY0000296	1M ohm,1/16W,J,1005,R/TP		
6	R215	RES,CHIP	ERHY0000291	330K ohm,1/16W,J,1005,R/TP		
6	R216	RES,CHIP	ERHY0000269	30K ohm,1/16W,J,1005,R/TP		
6	R217	RES,CHIP	ERHY0000269	30K ohm,1/16W,J,1005,R/TP		
6	R218	RES,CHIP	ERHY0000278	82K ohm,1/16W,J,1005,R/TP		
6	R219	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R220	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R224	RES,CHIP	ERHY0000250	3.3K ohm,1/16W,J,1005,R/TP		
6	R225	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R230	RES,CHIP	ERHY0000244	1.5K ohm,1/16W,J,1005,R/TP		
6	R231	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R232	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R242	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R311	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R312	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R313	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R314	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R315	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R316	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R319	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R320	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R321	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R322	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R324	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R325	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R326	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R328	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R330	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R331	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R332	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R334	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R335	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R336	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R340	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R347	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R348	RES,CHIP	ERHY0000265	20K ohm,1/16W,J,1005,R/TP		
6	R349	RES,CHIP	ERHY0000207	20 ohm,1/16W,J,1005,R/TP		
6	R350	RES,CHIP	ERHY0000273	47K ohm,1/16W,J,1005,R/TP		
6	R351	RES,CHIP	ERHY0000226	220 ohm,1/16W,J,1005,R/TP		
6	R352	RES,CHIP	ERHY0000244	1.5K ohm,1/16W,J,1005,R/TP		
6	R353	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R402	RES,CHIP	ERHY0000263	15K ohm,1/16W,J,1005,R/TP		
6	R403	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R404	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R405	RES,CHIP	ERHY0000228	270 ohm,1/16W,J,1005,R/TP		
6	R406	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R407	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R409	RES,CHIP	ERHY0000249	2.7K ohm,1/16W,J,1005,R/TP		
6	R410	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R420	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R480	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R500	RES,CHIP	ERHY0000101	0 ohm,1/16W,F,1005,R/TP		
6	R501	RES,CHIP	ERHY0000101	0 ohm,1/16W,F,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R502	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R503	RES,CHIP	ERHY0000206	18 ohm,1/16W,J,1005,R/TP		
6	R504	INDUCTOR,CHIP	ELCH0005012	3.9 nH,S ,1005 ,R/TP ,		
6	R505	RES,CHIP,MAKER	ERHZ0000263	300 ohm,1/16W ,F ,1005 ,R/TP		
6	R506	RES,CHIP,MAKER	ERHZ0000263	300 ohm,1/16W ,F ,1005 ,R/TP		
6	R507	RES,CHIP	ERHY0000204	12 ohm,1/16W,J,1005,R/TP		
6	R508	RES,CHIP	ERHY0000232	430 ohm,1/16W,J,1005,R/TP		
6	R509	RES,CHIP	ERHY0000232	430 ohm,1/16W,J,1005,R/TP		
6	R510	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R511	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R512	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R513	RES,CHIP,MAKER	ERHZ0000205	1 Mohm,1/16W ,F ,1005 ,R/TP		
6	R514	RES,CHIP	ERHY0000263	15K ohm,1/16W,J,1005,R/TP		
6	R515	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R517	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R518	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R550	RES,CHIP	ERHY0000101	0 ohm,1/16W,F,1005,R/TP		
6	R603	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R604	RES,CHIP	ERHY0000220	100 ohm,1/16W,J,1005,R/TP		
6	R609	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R610	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R611	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R701	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R702	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R724	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R725	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R728	RES,CHIP	ERHY0000262	12K ohm,1/16W,J,1005,R/TP		
6	R730	RES,CHIP	ERHY0000203	10 ohm,1/16W,J,1005,R/TP		
6	R731	RES,CHIP	ERHY0000203	10 ohm,1/16W,J,1005,R/TP		
6	R732	RES,CHIP	ERHY0000262	12K ohm,1/16W,J,1005,R/TP		
6	R733	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R734	RES,CHIP	ERHY0000203	10 ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R735	RES,CHIP	ERHY0000203	10 ohm,1/16W,J,1005,R/TP		
6	R738	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R739	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R741	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R742	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R743	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R744	RES,CHIP	ERHY0000213	47 ohm,1/16W,J,1005,R/TP		
6	R745	RES,CHIP	ERHY0000116	1.5K ohm,1/16W,F,1005,R/TP		
6	R746	RES,CHIP	ERHY0000405	10 ohm,1/16W,J,1608,R/TP		
6	R747	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R748	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R749	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R751	RES,CHIP	ERHY0000278	82K ohm,1/16W,J,1005,R/TP		
6	SW500	CONN,RF SWITCH	ENWY0002301	ANGLE ,SMD ,0.8 dB,		
6	U101	IC	EUSY0169301	148-TERMINAL BGA ,148 PIN,R/TP ,GSM ANALOG BASEBAND / TYPHOON B, Pb Free		
6	U102	TR,FET,P-CHANNEL	EQFP0004201	2.9*1.9*0.8(t) ,.7 W,20 V,-6 A,R/TP ,NDC652P upgrade(substitution) item, Pb free		
6	U103	IC	EUSY0251701	BGA ,204 PIN,R/TP ,Digital BaseBand Hermes+USB, Pb Free		
6	U200	IC	EUSY0204801	SC82-AB (SC70-4) ,4 PIN,R/TP ,80mA CMOS LOW IQ LDO VOLTAGE REGULATOR / 2.5V		
6	U201	IC	EUSY0077701	SC70-5 ,5 PIN,R/TP ,1.8V Low Voltage Comparator with Rail-to-Rail Input, Pb Free		
6	U202	IC	EUSY0111601	32-PIN QFN ,32 PIN,R/TP ,MA-3 / 40 TONES / FM + WAVEFORM TABLE		
6	U203	IC	EUSY0185501	SCSP ,88 PIN,R/TP ,256M (128M*2, MLC-TYAX) NOR+64M PSRAM / IO 3V / PB FREE		
6	U206	IC	EUSY0119002	4X3 UCSP / CODE : B12-4 ,10 PIN,R/TP ,DUAL SPDT ANALOG SWITCHES(Pb Free)		
6	U301	DIODE,TVS	EDTY0006501	SC70-6L ,5.25 V,100 W,R/TP ,		
6	U400	IC	EUSY0264701	SPCP ,96Pin PIN,R/TP ,		
6	U401	IC	EUSY0162501	SC70JW ,8 PIN,R/TP ,300mA / 2.8V CMOS LDO Regulator		
6	U404	IC	EUSY0193801	TSOPJW-12 ,12 PIN,R/TP ,1X,1.5X Charge Pump For White LED Driver		
6	U405	IC	EUSY0077301	SC70-6 ,6 PIN,R/TP ,SPDT Analog switch		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	U406	IC	EUSY0154410	MLF ,10 PIN,R/TP ,Dual(1.8V/150mA,2.8V/300mA) LDO Regulator		
6	U408	IC	EUSY0151908	SC70JW8 ,8 PIN,R/TP ,150mA, 1.8V LDO Regulator		
6	U500	PAM	SMPY0010401	35 dBm,56 %, A, dBc, dB,6X6 ,SMD ,QBAND PAM		
6	U501	IC	EUSY0223201	5.0*5.0 ,32 PIN,R/TP ,AERO11 TRANSCEIVER		
6	U502	IC	EUSY0077201	SC70 ,5 PIN,R/TP ,Inverter Gate, Pb Free		
6	U503	IC	EUSY0118602	SOT23 ,5 PIN,R/TP ,2.85V/150mA Low Noise uCap LDO Regulator, PBFREE		
6	U701	IC	EUSY0184803	MLF ,6 PIN,R/TP ,150mA, 2.8V High PSRR uCap LDO Regulator,PBFREE		
6	U702	IC	EUSY0227901	SON5-P-0.35(fSV) ,5 PIN,R/TP ,2-INPUT AND GATE, Pb Free		
6	U703	IC	EUSY0235001	Microbump-10 ,10 PIN,R/TP ,Dual SPDT Analog Switch (USB 1.1), Pb Free		
6	U704	IC	EUSY0152402	SC70JW-8 ,8 PIN,R/TP ,150mA LDO LINEAR REGULATOR		
6	VA203	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA204	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA301	VARISTOR	SEVY0000702	14 V,10% ,SMD ,		
6	VA302	VARISTOR	SEVY0000702	14 V,10% ,SMD ,		
6	VA306	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA307	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA308	VARISTOR	SEVY0000702	14 V,10% ,SMD ,		
6	VA309	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	X101	X-TAL	EXXY0004601	.032768 MHz,20 PPM,7 pF,65000 ohm,SMD ,6.9*1.4*1.3 ,		
6	X500	VCTCXO	EXSK0005501	26 MHz,1 PPM,10 pF,SMD ,3.2*2.5*1.0 ,		
5	SAFD00	PCB ASSY,MAIN,SMT TOP	SAFD0062901			
6	C203	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C215	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C216	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C233	CAP,CERAMIC,CHIP	ECCH0000120	39 pF,50V,J,NP0,TC,1005,R/TP		
6	C403	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
6	C404	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
6	C607	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C753	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	C754	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C755	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C756	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C757	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C758	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C759	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C760	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C761	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C762	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C763	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C764	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C765	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	C766	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
6	FB101	FILTER,BEAD,CHIP	SFBH0008101	600 ohm,1005 ,		
6	LD400	DIODE,LED,CHIP	EDLH0003401	RED, GREEN ,ETC ,R/TP ,SIZE 1315 , GSM DUAL LED		
6	LD700	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD701	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD702	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD703	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD704	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD705	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD706	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD707	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD708	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD709	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD710	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD711	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD712	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	LD713	DIODE,LED,CHIP	EDLH0006001	Blue ,1608 ,R/TP ,Blue SMD LED		
6	MIC200	MICROPHONE	SUMY0009201	FPCB ,~44 dB,4.0*1.3 ,SMD TYPE		
6	R200	RES,CHIP	ERHY0000241	1K ohm,1/16W,J,1005,R/TP		
6	R204	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	R214	RES,CHIP	ERHY0000247	2.2K ohm,1/16W,J,1005,R/TP		
6	R317	RES,CHIP	ERHY0000261	10K ohm,1/16W,J,1005,R/TP		
6	R318	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R323	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R329	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R333	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R337	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R341	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R342	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R343	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R344	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R345	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R346	RES,CHIP	ERHY0000237	680 ohm,1/16W,J,1005,R/TP		
6	R412	RES,CHIP	ERHY0000280	100K ohm,1/16W,J,1005,R/TP		
6	R605	RES,CHIP	ERHY0000201	0 ohm,1/16W,J,1005,R/TP		
6	R612	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R613	RES,CHIP	ERHY0000254	4.7K ohm,1/16W,J,1005,R/TP		
6	R707	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R708	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R709	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R710	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R711	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R712	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R715	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R716	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R717	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R718	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R719	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R720	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R777	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	R778	RES,CHIP	ERHY0000230	330 ohm,1/16W,J,1005,R/TP		
6	U403	IC	EUSY0200301	Leadless chip ,6 PIN,R/TP ,Hall S/W, Pb Free		

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Specification	Color	Remark
6	VA200	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA202	VARISTOR	SEVY0003901	5.5 V, ,SMD ,480pF, 1005		
6	VA310	VARISTOR	SEVY0000702	14 V,10% ,SMD ,		
6	VA311	VARISTOR	SEVY0000702	14 V,10% ,SMD ,		
5	SPFY00	PCB,MAIN	SPFY0110001	FR-4 ,1.0 mm,BUILD-UP 8 ,		
5	WSYY00	SOFTWARE	WSYY0315301	S5000P40-ESA-V09c-XXX-XX OCT 07 2005		

12. EXPLODED VIEW & REPLACEMENT PART LIST

12.3 Accessory

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Specification	Color	Remark
3	ADEY00	DATA KIT	ADEY0002401		STARRY BLACK	
4	MBAZ00	BAG	MBAZ0004701	CD Cover	Without Color	
4	MCHZ00	COMPACT DISK	MCHZ0008001		STARRY BLACK	
3	MHBY00	HANDSTRAP	MHBY0002101	T5100 RUSSV Square Coupling, Cow Leather	Metal Silver	
3	SBPL00	BATTERY PACK,LI-ION	SBPL0076324	3.7 V,1000 mAh,1 CELL,PRISMATIC ,LG-G232 BATTERY(CHINA LABEL)		
3	SGDY00	DATA CABLE	SGDY0005601	DK-40G ,K8000 24PIN I/O + USB A TYPE		
3	SGEY01	EAR PHONE/EAR MIKE SET	SGEY0003204	L1200 ,MONO TYPE		
3	SSAD00	ADAPTOR,AC-DC	SSAD0007833	FREE ,50 Hz,5.2 V,800 mA,CE,CB ,PLUG(4.8 Pi)		
3	WSAY00	SOFTWARE,APPLICATION	WSAY0035801			